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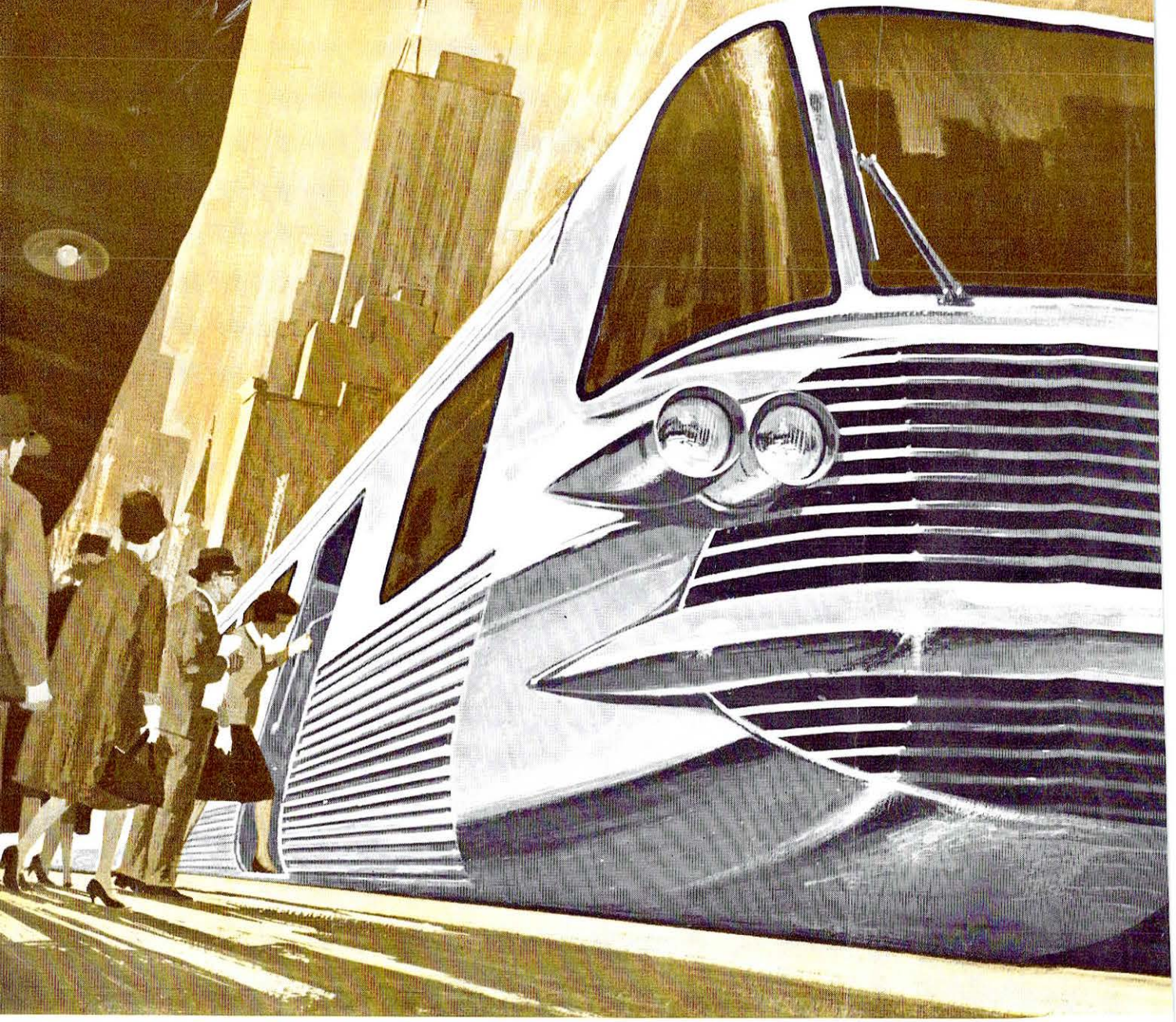
'World's largest' tank car is a **rolling laboratory** for General American . p. 24

October 4, 1965

RAILWAY AGE WEEKLY

BEAVER FALLS PA 15010



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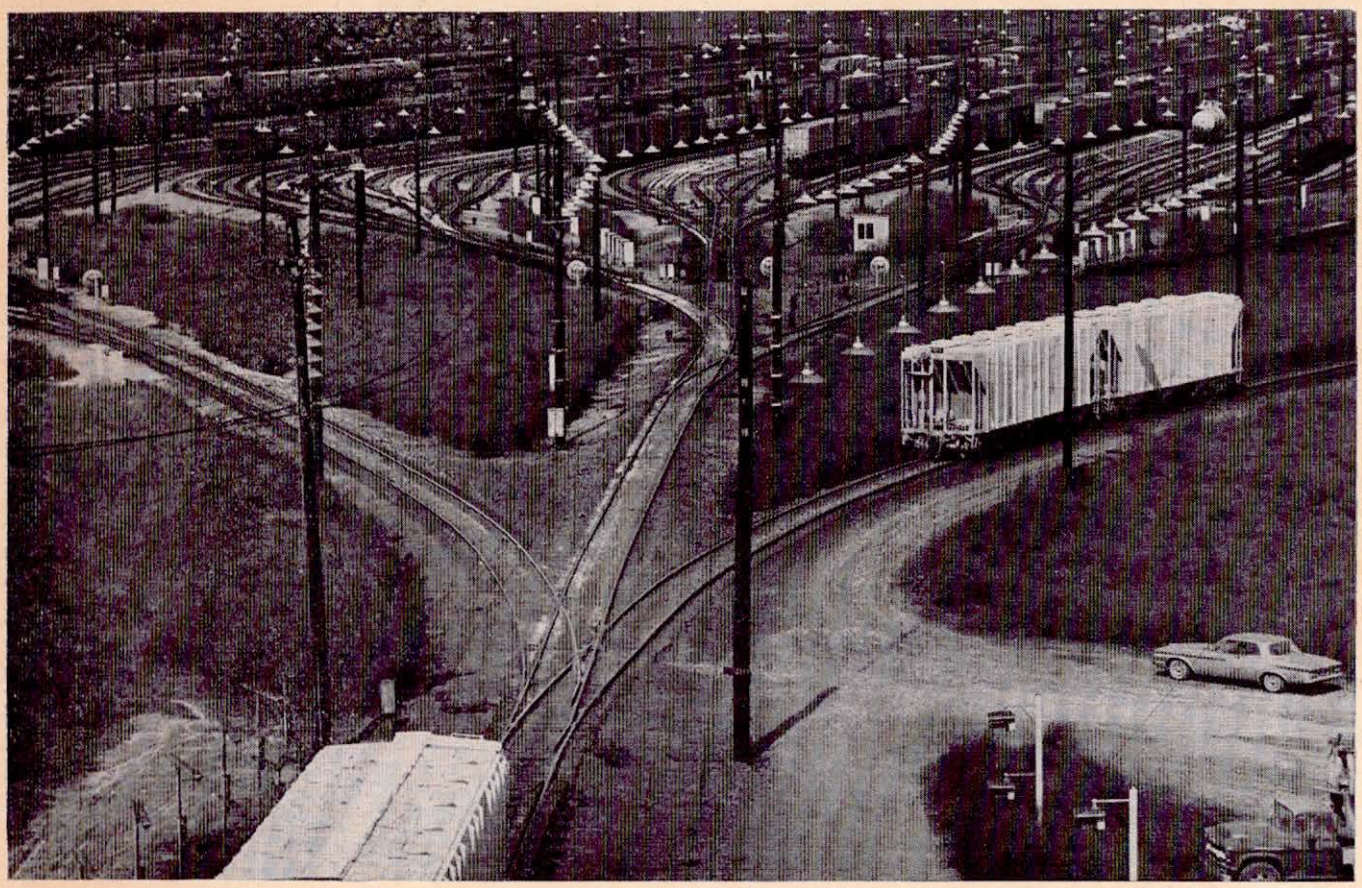

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RAILWAY AGE WEEK AT A GLANCE

October 4, 1965 • Vol. 159, No. 13

Harnessing the computer

The "why", "what" and "how" of computerization are explored by data-systems specialists **p.11**

Moving People

- **The experts take a look** **p.16**
- **LBJ casts a big vote for rails** **p.17**
- **Boston: Rail spokes to the hub** **p.20**

General American's whopper tanker

The 60,000-gallon unit—called the world's biggest—will become a laboratory on wheels **p.24**

Heavy-car problems remain

Symington Wayne engineering conference probes the problems posed by high-capacity freight equipment.. **p.28**

The Action Page—What about the short lines?

Healthy, self-sufficient short lines can contribute much to the health of the trunk lines **p.40**

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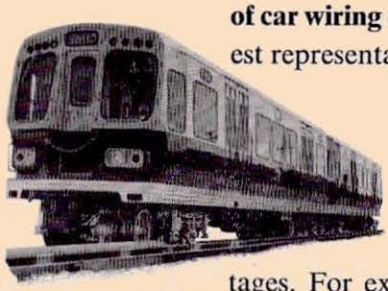

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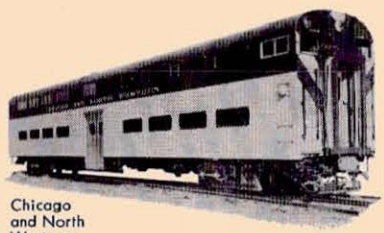

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SHORT AND SIGNIFICANT

'California Zephyr' gets another chance

Burlington, Rio Grande and Western Pacific have agreed on a three-point program aimed at keeping the "California Zephyr" operating. Major elements in the drive: (1) An intensified sales campaign designed to build traffic during winter months; (2) reduction in expenses without a lowering of standards of service; and (3) an attempt to get mail traffic for the train. Fears for C-Z's future have been based largely on Western Pacific's unhappiness with losses on the westernmost part of the 2,500-mile run. Some observers had thought the three roads might go to a coach-seat reservation charge or to a redistribution of revenues in an effort to meet WP's problem. But neither of these moves apparently figures in the program finally adopted. And, said the three C-Z operators: "In the final analysis, whether or not the train is permitted to carry mail will probably determine the longevity of its operation."

●

Canadian roads will end passenger-train pool

Canadian National and Canadian Pacific, which don't see eye to eye on the potential (and promotion) of passenger service, have decided to end a pool arrangement that for 32 years has provided for joint operation of trains on certain routes. A joint statement by CN President Donald Gordon and CP President R. A. Emerson said cancellation of the agreement, effective Oct. 30, will leave each road "free to pursue its objectives and interpret the needs of the traveling public in its own way."

●

D&H, E-L want to join the N&W family, too

In approving creation of the Norfolk & Western-Nickel Plate-Wabash system, the ICC left the door open for subsequent petitions-for-inclusion by three other roads—Boston & Maine, Delaware & Hudson, Erie Lackawanna. B&M announced Sept. 23 that it had exercised this option (RA, Sept. 27, p. 7). Now, D&H and E-L have submitted their own petitions for inclusion in the existing N&W system. All three roads have indicated their dissatisfaction with terms proposed for their inclusion in the proposed N&W-Chesapeake & Ohio system.

●

Voting begins in IC representation fight

Locomotive firemen on Illinois Central have begun casting the ballots which will determine if they're to be represented by the Brotherhood of Locomotive Firemen & Enginemen or by the Brotherhood of Locomotive Engineers. Voting started Oct. 1 at Waterloo, Iowa, and will continue for two weeks, winding up Oct. 14 at Louisville and at Haleyville, Ala. The BLF&E now holds the contract for firemen; the BLE—which repelled an attempted raid on the contract for engineers late last year—is trying to capture representation rights for firemen as well.

●

TERRE set for bow in Europe in '66

A "new era" in international transport and trade will open up with inauguration early next year of Trans-European Road-Rail Express service, NYC President Alfred E. Perlman said at Antwerp and Rotterdam last week. TERRE, (RA Feb. 22, p. 65) is a new international operation for rail and highway transport of marine-type Flexi-Vans between the Belgian and Dutch ports and industrial centers of Germany, Switzerland and northern Italy. NYC, Perlman emphasized, "hopes to offer its experience and its best efforts to serve intercontinental shippers jointly with national railroads and motor carriers of Europe to provide the benefits of truly integrated transportation" on the initial route and eventually on others.

MONDAY MORNING REPORT

For western territory, an unusual situation

The West isn't used to "problem" railroads—but it has one now, and the suddenness with which trouble hit has made it even more of a shock. It's true, western territory has had its losers. But Chairman Ben W. Heineman and President C. J. Fitzpatrick have turned once-shabby Chicago & North Western into a money-maker, and John W. Barriger has high hopes that Katy's chronic ills can be cured. Today, the big question mark is Rock Island—a road that made almost $5 million in 1963 and could lose the same amount in 1965.

RI takes it on the chin

Some say Rock Island can't be that bad off. Others argue that it wasn't that good, two or three years ago. One former management, so it's been rumored, came under fire for spending too much on improving the property. But another knowledgeable railroad officer says the only fault, if there was one, was that not enough was being spent. Whatever the causes, whatever the background, the fact remains that Rock Island —as Chairman and President Jervis Langdon, Jr., puts it—got socked good and proper this year, and it wasn't ready to absorb the punches.

Staggered but not KO'd, RI starts fighting back

Things are bad. Earlier estimates of the '65 deficit have been scaled down from more than $6 million to a bit less than $5 million, but that's still a chunk of money. At one point, Langdon told RI shareholders recently, the operation was "close to collapse." So what's being done about it? Simply put, Rock Island is working on one of the greatest hurry-up rehabilitation jobs in recent railroad history. By the end of '65, more than 4,200 new freight cars and 65 new locomotive units will have come onto the property. A three-year M/W mechanization program is under way. Small repair and stores facilities are being consolidated. Unproductive branch lines will be abandoned and little-used stations closed as quickly as possible. LCL is gone; so is dining- and sleeping-car service on all but one pair of trains. Employment, which stood at 14,350 at the end of last year, is being reduced (one of RI's biggest single problems has been $10 million in added labor costs in 1964-65). And, of course, merger with Union Pacific is being pushed.

'In the black in '66, rolling again in '67'

For a man whose railroad has taken the sudden tumble experienced by RI, Langdon is remarkably—if still cautiously—optimistic. The improvement program—coupled with much tighter control of expenses—should, he believes, put the road in the black again in 1966. And, with that as a base, "by 1967 we ought to be rolling again."

Individual or railroad— you do the best you can

At the recent annual meeting, one stockholder arose to chide RI's chairman and president because the proxy statement showed him owning only 100 shares of the company's stock. Langdon heard the man out, then explained first that (a) there was no actual requirement that he own any stock; and (b) while he isn't a big stockholder, the directors who retained him to operate the company are major owners. RI's chief executive thought a moment, then added rather gently that he had wanted to buy in, so he did acquire the 100 shares: "Quite frankly, it was all I could afford at the time." That's also what (Langdon says) Rock Island itself is doing: All it can, in money, manpower, effort. And the way the signs read today, it's going to be enough to replace red ink with black.

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RAILWAY AGE WEEKLY
OCTOBER 4, 1965

Harnessing the computer

Why are railroads moving into computerization? What will it mean? How will interline programs be coordinated? Some answers were provided at last week's first annual meeting of the AAR's Data Systems Division.

"What we expect to achieve on a gigantic scale," said Southern Pacific President B. F. Biaggini, "is the ability to observe at a single glance the operations of an entire system—to have available, at every level of supervision and every point of action, the information that the responsible supervisor or employee at that point needs in order to do a superior job of modern day railroading."

With these words, Biaggini sounded the keynote at St. Louis last week for the first annual meeting of the Data Systems Division, Association of American Railroads. His statement reflected the quiet excitement, the resolute determination that pervaded all sessions of this newest (and already one of the most important) of the AAR's divisions.

● **Why computerize?** One thing emerged clearly from these sessions: Railroads are in full swing toward real-time (i.e., as-it-happens) computing.

As Biaggini put it: "The fundamental justification for a real-time, on-line computer system in the railroad industry at this time is utilization and control of equipment—that is, locomotives and freight cars—the timely entry of accounting information of all kinds, and the production of current information for customer servicing."

Then he addressed himself directly to data processing specialists: "You must give maximum attention to the simplification of all of the operations and activities of which you have knowledge," he said. "It is not enough for you to view your activities from the standpoint of data handling alone, but you must consider them in reference to the whole framework of related operations and events—the sum total of which make up your company.

"This means you must be involved in the workings of many departments; and to succeed, your efforts will have to be conducted in such a way as to be helpful to the originating or using department."

● **The unusual vs. the routine.** It's not enough, emphasized Biaggini, merely to stockpile information. He gave some further pointers:

"To be useful, information has to be regarded with confidence all up and down the line.

"It has to be presented in a form that is accurate and understandable and which separates the action items from the great volume of routine incidents.

"It is important you never forget that, for all of their complexity and speed, these systems will only work as well as the people who designed them and the other people who will use them.

"So your concern must be as much with people—learning from their experience and finding ways to fill their needs—as it is with the technical aspects of your profession."

SP's president concluded: "If you see and accept the challenge of this new technology, if you see your machines and your efforts as tools to help improve practically every phase of railroad operations, if you make the most of your opportunities to sell your services to the departments who use them, if you will understand that modern railroading is complicated big business that must take advantage of every available technique to reduce its costs and improve its efficiency, and if you want to be part of the many-talented team necessary to get results in the conditions under which we must operate, then you will be making a real contribution and your chances for success will be excellent."

● **What management wants.** Data systems must provide up-to-the-minute information upon which decisions can be made—and four panelists at the AAR meeting explored some specifics.

Said W. H. Thompson, assistant chief transportation officer, Louisville & Nashville: "First of all, we must have current factual information based on the exception to a standard performance, where matters requiring attention will be flagged for our benefit.

"Secondly, we must be furnished methods whereby controllable conditions might be forecast so that maximum preventive action can be afforded.

"Lastly, in certain areas, computer control must be developed so that optimum use can be made of facilities and equipment."

● **Measuring service.** The first data requirement for the marketing manager, noted William Bamert, assistant vice president, commercial development, Chesapeake & Ohio-Baltimore & Ohio, is a set of reports for measuring the quality of service. This data, he said, must "embrace the time between the hour at which the shipper tendered the car for movement and the hour at which it was spotted at the receiver's dock."

A second need, said Bamert, is for "a continuing and reliable set of measurements on the utilization of equipment which can be translated into increased profit dollars by the application of sound and coordinated commercial and transportation policies."

C. E. Crippen, vice president, finance, for Milwaukee, suggested that, along with more efficient car utilization, computers can help provide for more efficient selection and acquisition of cars.

R. A. Stane, construction engineer, Santa Fe, stated the needs of engineering departments: "More effective use of technical manpower engaged in design, construction and maintenance problems; better planning of system maintenance to obtain the maximum benefits from mechanization; and an over-all upgrading of the railroad's plant and product, but at the same time, insurance of maximum return on the stockholders' investment."

● **Division moves fast.** Although the Data Systems Division was organized

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

• **THE TRANSPORTATION SYSTEM** of the United States should embody six characteristics in the opinion of Alan S. Boyd, the new undersecretary of commerce for transportation. Boyd spelled out this view in an address last week at a Detroit meeting of the National Defense Transportation Association.

Before getting into his bill of particulars, however, the undersecretary defined the "general objective" as the development of a system of "fast, safe and economical services to meet the needs of our rapidly growing and rapidly changing economy." As Boyd otherwise puts it, the system "must be able to move people and goods without waste or discrimination, it must offer services at the lowest possible cost consistent with broad national goals, it must take maximum advantage of the inherent characteristics of each mode, and its development must recognize the underlying economic and political principles which govern the nation."

BOYD'S VIEWS, of course, are significant. His office is now submitting transportation reports to the White House. And these reports are expected to guide the shaping up of recommendations which President Johnson will make to Congress next year. The President said recently that transportation-policy proposals will be part of the "substantative" legislative program he will have for 1966.

FIRST on Boyd's list of desirable characteristics is maximum reliance on unsubsidized, privately-owned facilities—operated under incentives of private profit and subject to "the checks as well as the stimulus" of competition. Second is the undersecretary's call for wide latitude for exercise of managerial discretion. That contemplates reliance on regulation only for the establishment of broad policy guidelines—not for detailed scrutiny of carrier operations.

NEXT, in turn, come Boyd's view of the right consist of the nation's transportation system, and his position on user charges. As to the former, he says the system should be "a combination of common carrier service available to the general public on a non-discriminatory basis as well as private carriage." As to user charges, he says, "to the extent possible, users of transportation services should bear the full cost of the services they use whether those services are provided privately or publicly."

THE REMAINING TWO characteristics on Boyd's list call for a transportation system operated "as efficiently as possible but in such a way as to provide the minimum of interference with other social or economic activity or resources"; and for a system with capability of "supporting our national security objectives in normal times as well as in times of emergency."

THE UNDERSECRETARY also emphasizes his feeling that the transportation system must be "fully integrated." He explains that this "will require improvements in such things as joint rates and through routings." There is no statement in the speech indicating whether or not Boyd might favor extension of the Interstate Commerce Act's present joint-rate requirements. They permit the ICC to prescribe joint rail-water rates and routes, but joint-rate and through-route arrangements between railroads and motor carriers are on a voluntary basis.

only 14 months ago, committee reports presented at last week's meetings indicated that a brisk pace has already been established. For example, a report by the Applications and Systems Development Committee consisted of 19 pages listing computer applications (by railroad) in areas ranging from freight claim and loss reports, through market research and accounting functions, to maintenance-of-way equipment utilization.

The Programming Technique Committee reported that an index of programs will be established; work is also under way on preparing standards of programming. Users of four major computer models are on this committee. Work is also progressing on methods whereby railroads may share, or exchange, computer programs, according to Committee Chairman W. A. Zimmerman, director systems and programming, Great Northern.

• **Universal language.** D. L. Loftus, director of market development, Western Pacific, and chairman of an ad hoc committee on "machine language," said a preliminary format has been prepared for a Universal Machine Language Equipment Register (UMLER). Copies are being shown to railroads and private car lines. UMLER will include all information in the Official Railway Equipment Register, plus all information presently reported to the AAR for per-diem-payment purposes and detailed information on physical characteristics of freight cars not now found in the Official Register. The UMLER file will be maintained on magnetic tape in Washington and distributed to railroads in machine-processable language. The AAR will consolidate all future changes and issue them to member roads.

• **Geographic code.** By Jan. 1, 1966, another ad hoc committee—headed by R. P. DeCamara, vice president staff, Frisco—will have completed a standard transportation geographic code for all points in the U.S. east of the Mississippi River. Codes for points west will be available by July 1966.

• **Workshop sessions.** During the St. Louis meeting, the chairmen of the various committees conducted workshop sessions for delegates. One of the most important of these considered the question of Automatic Car Identification (ACI). The task of studying the economic aspects of ACI, it was disclosed, has been turned over to the Data Systems Division, though the AAR's research department will continue to be concerned with ACI hardware. The AAR is now working with three suppliers—Sylvania, Abex (American Brake Shoe), and General Electric—on ACI tests. ■

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TRANSIT ROUNDUP

ATA set for busy southern meeting

Transit men from across the nation will check into New Orleans' Roosevelt Hotel next week for what promises to be a busy working convention of the American Transit Association.

A number of top speakers have been lined up for the four-day session. Among them: former Massachusetts Gov. Endicott Peabody, driving force behind the creation of the revolutionary 78-town transportation authority in his state; and President Johnson's choice to run the National Capital Transportation Agency, Walter J. McCarter.

McCarter will fill the delegates in on details of the recent national transit victory in Washington—passage of the bill authorizing financing and construction of a $431-million rail rapid-transit system for the capital (RA, Sept. 13, p. 11.). Maj. Gen. Rush B. Lincoln, general manager of the one-year-old Massachusetts Bay Transportation Authority, will explain how Boston has taken the regional approach to solve its transportation problems.

Cleveland's recently-authorized $14-million, 3.8-mile extension of its rapid-transit line to Hopkins International Airport (RA, July 5, p. 32) will be discussed by Donald C. Hyde, general manager of the city's transit system. The title of his talk: "Airport to Downtown in 20 Minutes." The federal government is putting up $6.9 million for the line, which will include an underground terminal (see photo) at the airport end.

"ATA Reports to the Industry" will be the theme of the opening session on Monday; marketing transit will be taken up on Tuesday; and delegates will discuss transit-aid legislation at the final general session on Wednesday. In addition to Gov. Peabody, speakers at this closing session will include Tacoma, Wash. Mayor Harold M. Tollefson, vice president of the National League of Cities, and Loran L. Lewis, chairman of the Port Authority of Allegheny County-Transit Division, Pittsburgh, Pa.

Philadelphia

In this heavily-populated metropolitan area, where public transport is controlled by an alphabetically-confusing array of agencies (PSIC, SEPACT, SEPTA), a giant step forward has been taken toward putting all authority in the hands of one body.

From now on, SEPTA (the state-created Southeastern Pennsylvania Transportation Authority) will manage rail commuter programs serving the city and a three-county area.

Mayor James H. J. Tate, who has long pushed for a comprehensive, balanced transportation system for the Delaware Valley, hailed the action as "in keeping with the concept of the regional mass transportation program as spelled out in the act passed by the State legislature in January, 1964."

SEPTA is thus taking over from PSIC (Passenger Service Improvement Corporation) the PSIC-sponsored "Operation" Northwest, Manayunk, Overbrook and Angora. All are Pennsylvania Railroad lines. A similar contract has been entered into between SEPTA and the Southeastern Pennsylvania Transportation Compact (SEPACT) covering the city-county programs now being managed by SEPACT. Included is the entire Reading commuter system which is currently part of the 18-month experiment, "Operation Reading."

PSIC was established in 1960 by the City of Philadelphia as a non-profit agency to run a service improvement program on two commuter lines within the city's boundaries. In 1961, SEPACT came into being, when the city and Bucks, Chester and Montgomery counties got together to set up a similar demonstration in a wider area.

The success of the two agencies in improving rail service on the Pennsylvania and Reading commuter lines had a significant bearing on the creation in 1963 of SEPTA by the State. SEPTA, which gets state funds, was established as a permanent, regional entity responsible for developing and coordinating all mass transportation facilities in the region.

PSIC and SEPACT will continue in existence for the time being, as PSIC has long-term equipment obligations, and SEPACT has a program commitment with the federal government.

Montreal

Work on Montreal's 16-mile, $213.7-million subway system is moving along on schedule, and the first rubber-tired Metro trains should be running by the end of next summer.

The full system, including an extension under the St. Lawrence to serve the 1967 world's fair, "Expo '67," on two islands in the river, will be ready early in 1967.

The first of 369 cars for the system has been delivered to the city by the builder, Canadian Vickers, Ltd. Each train will consist of six motorized cars and three trailers and will be able to carry up to 1,500 passengers at speeds up to 32 mph.

—Edward F. Donlon

The rapid transit terminal at Cleveland Hopkins International Airport, shown in this conception by General Electric, should be in operation in two years.

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Moving People

The experts take a look

- **Finding No. 1: In an auto-saturated America, all signs point to a comeback for mass transport.**
- **Finding No. 2: Rails appear to have the inside track, though there will be other contenders.**

Into New York's Waldorf-Astoria Hotel last week filed a group of men toting impressive credentials as experts in the art-and-science of moving people.

They debated, gave and won points, and came up with a conclusion that could startle only those who haven't been reading the papers and poring over the population-explosion charts:

The long-talked-about mass-transport revolution, they agreed, is on the way—and in all likelihood it will arrive by train.

This endorsement of rails was all the more impressive in that it did not come exclusively from the men who make their living by promoting the steel wheel on the steel rail—and who are, as a result, often cast in the role of professional optimists.

It came, instead, from a state highway commissioner, New Jersey's Dwight R. G. Palmer; it came from a man who may be the world's greatest authority on the automobile—New York City's peppery, controversial (and successful) traffic commissioner, Henry A. Barnes; it came from politicians who have found that the railroad gospel, in an era of sky-high taxes and $30-million-a-mile expressways, is not only sound economics but good politics, as well.

The occasion was the 102nd annual meeting of the American Association of Passenger Traffic Officers, whose sessions this year were heavily slanted toward the general theme of moving people—whether by rail transit, commuter railroad, or line-haul carrier.

● **Riding high and proud.** Elsewhere last week, the movement of the masses—by rail—was also making news.

—In Washington (Sept. 30) President Johnson underscored his own interest in the problem by staging a ceremonial signing of the High-Speed Ground Transportation Research and Development Act of 1965. (The $18 million which the bill authorizes for rail passenger demonstrations over a three-year period may be only a drop in a multi-billion-dollar bucket—but, as one equipment supplier quipped: "With LBJ as sales VP, how can we fail?")

—On the same day in Washington, Pennsylvania Chairman Stuart Saunders told a nationwide television audience on NBC's "Today" show that 100 mph trains should be running between Washington and New York within 15 to 18 months. He said that on the test section of track between Trenton and New Brunswick, N.J., "we expect to

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get train speeds up 150 mph." He said the trains planned for the demonstration project will be "more luxurious than anything now operating anywhere in the world" and that the tests will do much to prove that the railroads can help solve the nation's growing transportation problems.

—In Baltimore a few days earlier, Secretary of Commerce John T. Connor told an audience of businessmen: "Many of us older Americans are railroad buffs at heart, and we'll get a real kick out of seeing the Iron Horse riding high and proud again . . . But the [Johnson Administration's] reasons for testing out the railroad passenger market are not sentimental—they are highly practical. A railroad uses no more land than one of today's modern super-highways—yet it is capable of carrying five times as many passengers. We will need fast, efficient rail systems to complement our fast efficient highway systems. All systems must not only move apace of need, but participate and gear up for future needs."

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(The President immediately followed through with a request for a $20 million appropriation for the remainder of the current fiscal year. He is expected to ask for $35 million for each of the two following years. The rail-demonstration programs are only the initial phase of the over-all project.)

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muter Transportation Authority, Dr. Ronan, put the city's stake in rails into sharp focus:

"Railroads deliver 100,000 people to Manhattan between the hours of 8 and 9 a.m. It would take 50 lanes of expressways to do the same job. Between 8:30 and 8:45 a.m. alone 50,000 commuters arrive by train. To do this job would take 100 lanes of expressways.

"If the job is moving people, rails are essential. People cannot be moved in great numbers, efficiently, in any other way."

● **The voice of success.** Rounding out the blue-ribbon panel was one of those rare men who knows what it's like to run a profitable commuter operation—Harold A. Lenske, director of commuter and passenger service for Chicago & North Western (which made $706,000 net on suburban service last year, expects to do even better in '65).

"We are both blessed and cursed with a disproportionate share of the world's supply of the personal shipping crate known as the automobile," observed Lenske. Then he told how C&NW has taken some of the edge from the curse through a long-range program of equipment-acquisition (at a cost of $50 million) and service improvements.

Lenske's basic message: There are no quick or easy solutions to the problem—and the problem isn't the same everywhere or on every carrier. Part of C&NW's success, he suggested came from a recognition that the problem of "corridor" transportation really involves three problems—(1) moving people to the corridor, (2) moving them through the corridor, (3) moving them on to destination. Parking lots and bus connections thus become important ingredients of any solution.

● **Potential, long and short.** Another panel explored the intercity market in greater detail. Some highlights:

Gordon M. Murray, transportation economist, Bureau of the Budget: "Technologically, high-speed ground transportation is in its infancy. Polls alone won't tell us whether people will or will not use a service. We have to experiment. That's what we're going to do in the Northeast Corridor." He questioned whether the speed factor had been unduly emphasized: "The amenities—freedom from noise, dirt, odors—also count."

Carl R. Englund, Jr., project manager of SEPACT, Philadelphia, and associate professor of transportation, New York University: "Airplane pilots earn two and one-half times what locomotive engineers earn, but their productivity is 10 times as high. If we are going to get any place at all we must make a stunning breakthrough in crew costs."

James R. Getty, general passenger traffic manager, Seaboard Air Line: "There are three basic requisites for success: (1) Good potential. We have it. Travel today is a $30-billion industry—it's going to get bigger. (2) A good product, fairly priced. (3) Make patrons feel wanted. (4) Advertise—then get out and sell. We should try to provide not just transportation—but travel."

Ed Peters, executive vice president, Four Winds Travel, Inc.: "This year we booked 2,000 people for luxury rail tours. Gross income to the rail industry will exceed $1 million. With proper promotion the public will buy a vacation by rail, if it can get comfort and service. Speed and price are secondary. Our problem is getting sufficient equipment. The question is, do the railroads really want passengers?"

● **Yes, if—.** The consensus at last week's meeting was that railroads do want passengers—short, long or medium haul—if they can make money (or at least not lose any) in the process. And the general feeling was one of optimism.

"There are encouraging indications," summed up New York Central's executive vice president, Wayne A. Hoffman, "that responsible people . . . are becoming aware of the need for planning and for action . . . If we can find a way to preserve needed service we won't have to re-invent the railroad passenger train after it has disappeared." ■

What's ahead for head-end traffic?

Is the government taking from passenger railroads with one hand what it is giving them (in smaller measure) with the other? Harold K. Sinclair, manager of mail, baggage and express for the Santa Fe, suggests that this might be the case.

"While the government appropriates money to promote passenger-train service, the Post Office continues to withdraw mail—and money—from passenger trains," Sinclair told last week's AAPTO meeting. He was the railroad representative on a panel which was assigned the topic: "Head-end traffic—what does the future hold?"

In the past year, said Sinclair, mail was withdrawn from 183 trains—by Post Office action in 147 cases. During that period mail was put onto 30 trains. Net loss: 153 mail trains. As of July 1 only 998 trains still carried mail.

Another panelist, Herbert B. Brand, director of the AAR's Railway Mail Transportation Division, sketched in the dimensions of the problem: In 1964, he said, one-third of all passenger-train revenues—some $330 million—came from mail.

● **The Post Office's position.** The Post Office position was stated by Joseph Jones, an aide to assistant Postmaster General W. J. Hartigan.

Said Jones: "If you can provide the dependable service and the rates that make us, as a shipper, want to use your trains—the mail will be there for you to haul away."

But he conceded that the winds of change are blowing—and they're gusty.

"By 1967," said Jones, "air mail and first class will be merged into a single letter-mail class. Our goal is overnight delivery. Long hauls will be made by air—shorter hauls will be made but the most rapid, most dependable, cheapest mode. The RPO is not dead, except perhaps on long hauls. Letter mail will, for example, be moved by air between Chicago and the Twin Cities; but it could well go by RPO to intermediate points, if the price is right, and the service good."

Bulk mail—importantly, parcel post—could be the passenger-train's salvation, suggested Jones—again, provided railroads can offer improved material-handling techniques, fast schedules, low rates.

Jones vigorously denied any anti-rail bias on the part of the Post Office. In fiscal 1965, he noted, the Post Office paid out $586 million for mail transportation—of which 56% went to the railroads.

● **How about express?** A somewhat similar position was taken by Truman T. Moore, vice president of operations for REA Express.

"A bright future for head-end traffic on the railroads depends on some heads-up thinking," said Moore.

A key factor, he said, is service: "Railroad LCL service, despite rate reductions, has gone to the graveyard due to inconsistent, inadequate service."

Moore concluded: "Express shippers ask only three questions: When will it get there? Will it arrive in good condition? What will it cost?"

MOVING PEOPLE

Transit: Boston's spokes to the Hub

MBTA is getting ready to move on a number of fronts to improve the region's facilities.

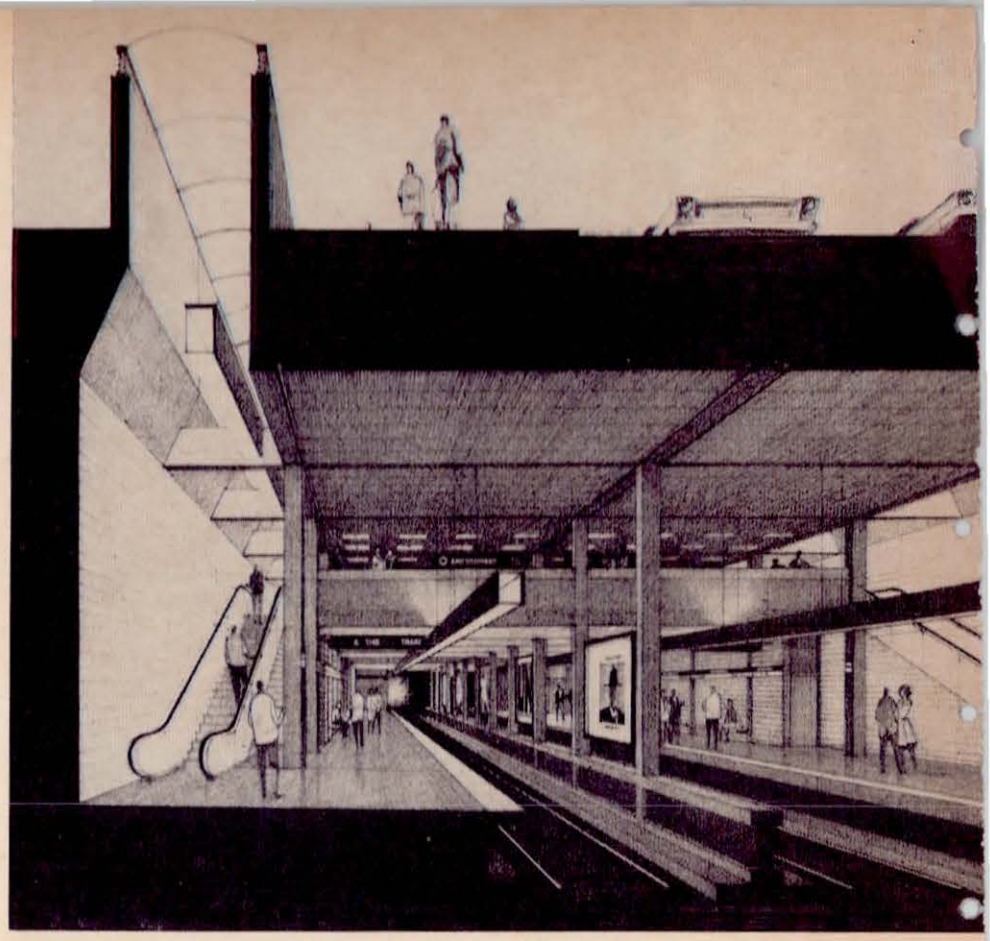
It's been a year since Boston and 77 neighboring communities teamed up for a concerted attack on the region's nagging transportation problems. But to the average citizen in the Boston area, who still thinks of the new, giant Massachusetts Bay Transportation Authority as the old "MTA," the outward signs of progress probably haven't been very conspicuous.

Now, things are beginning to happen in Boston. After a year's shakedown cruise through the area's troubled transportation waters, the MBTA, or the "Authority" as its own people call it, has cleared the decks for action. After months of mobilizing, it's ready for a frontal assault on the many problems it inherited from its predecessor, the MTA.

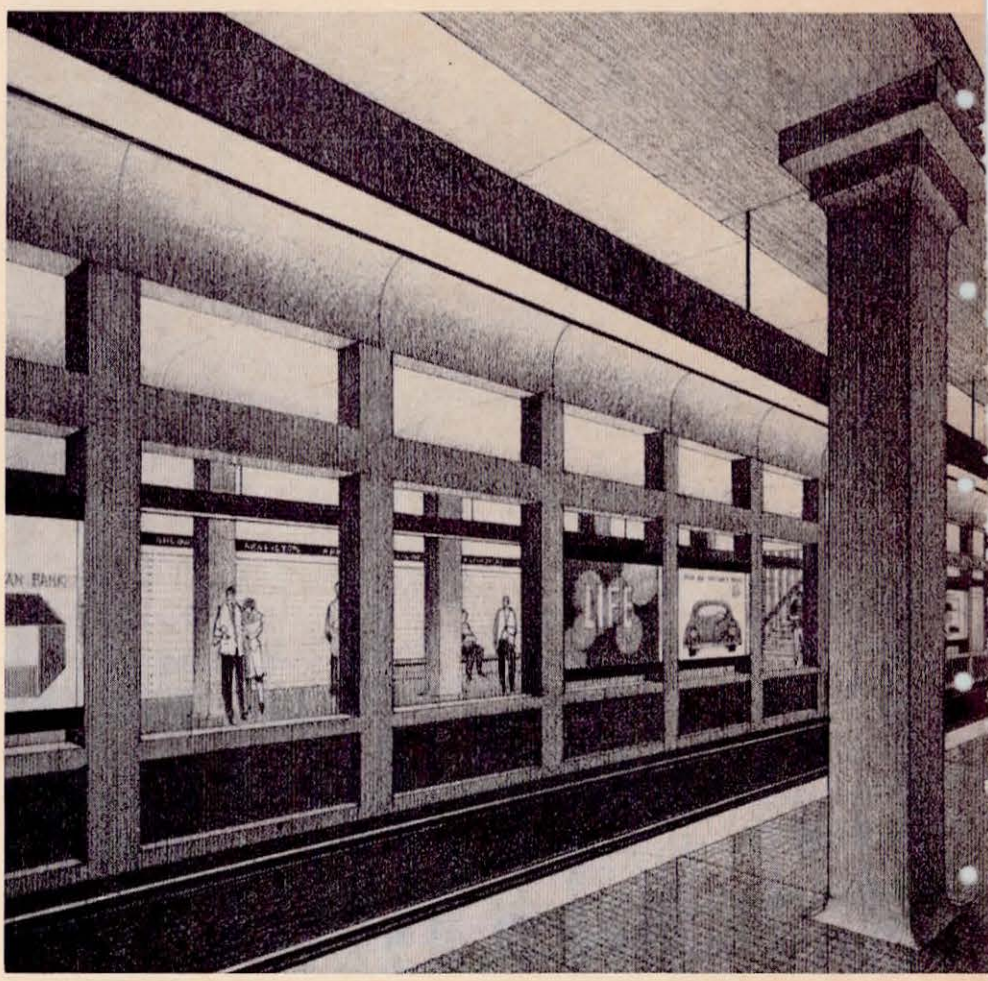
Under its new general manager, Maj. Gen. Rush B. Lincoln, Jr., former commander of the Defense Traffic Management Service and an old hand at running task forces, the MBTA is out to make the riding public sit up and take notice.

In the works, or soon to be, are: a $9 million station modernization program throughout the rail rapid-transit system, construction of $34.8-million rapid-transit extension to the South Shore over the New Haven's Old Colony line, a $15-million subway extension from Haymarket Square to North Station, (including a tunnel under the Charles River to Charlestown) and a transit express line down the median strip of the proposed Southwest Expressway into Boston.

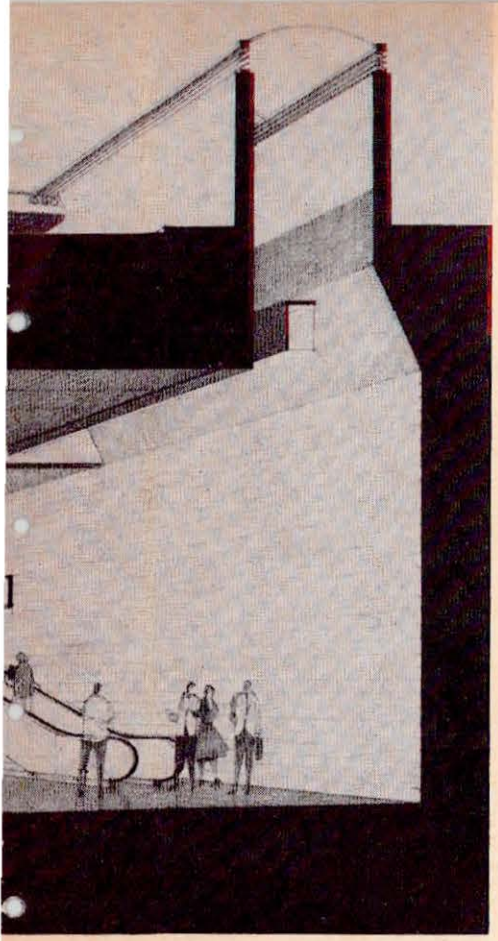
• **Building the image.** In order to have the public become better acquainted with it and with its deeds, the Authority is changing its profile to become more easily recognized. As its



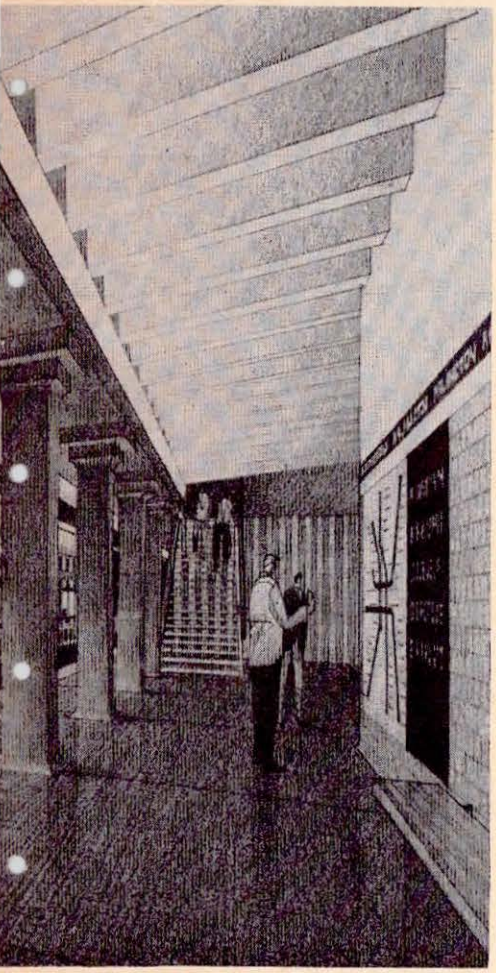
MBTA will build a new rapid-transit station at North Station as part of the proposed



Boston's $9-million transit station modernization program will get under way with a pilot



Haymarket-to-Charlestown subway.



project in the Arlington Street station, above.

first move in this direction it has come out with a new symbol to put itself more graphically before the public—a simple "T" framed in a circle. It will come in a variety of colors and will soon turn up on everything from uniforms to buses, to transit cars to letterheads. Officials hope the "T" will become as popular an expression as the old "El" was.

The new graphics program represents six months of visual design planning by the Authority's private consultant, Cambridge Seven Associates, Inc. As part of the project, all of the Authority's trackless trolleys, street cars and buses will be repainted—white from the windows up and aluminum and grey below—and doors will be a bright yellow for instant rider orientation.

The Authority's multi-million dollar station modernization program will involve 40 stations along the system. The plan calls for a $6 million federal outlay; $2.7 million in state assistance; and $300,000 from the Authority.

• **The downtown prototype.** Arlington Station, just off the city's famed Public Garden, will be the pilot station in the ambitious terminal renovation project. Modern lighting, brighter colors, ceramic tiles and new components such as turnstiles, exit gates, fare collectors' booths, benches and visual aids will upgrade the existing facilities.

In the area of directional aids, the Authority plans to use a color-coded system of identification for its rapid-transit routes. Trains will carry identifying colors for specific routes, and large maps with the color-coded system will be placed at major stations throughout the system. Passengers will be able to learn the routes by color.

"The new ideas," says General Manager Rush, "are designed to convey a sense of newness, imagination tempered with realism, and a dedication to serve the public well."

• **Serving the public well.** Anyone who has been able to observe the inner workings of the Authority over the past 12 months knows that there is indeed a sense of dedication on the part of this new transportation giant.

Says Rush's boss, MBTA Chairman James McCormack, and himself a general: "Urban transportation has been starving to death but now has a chance to return to public favor here in Boston as well as in other large cities across the country, and we intend to be successful. We want people to find transit easy to use and enjoyable to use."

In order to get a better understanding of the public it was created to serve, the MBTA believed it should start the job by getting a better understanding of itself. The board of directors hired management consultants Booz-Allen & Hamilton to look over their entire operation and come up with recommendations for improvement. The reports from the consultant have been coming in, and the Authority has already put some of the suggestions to work. Reportedly, MBTA will be able to save up to $1 million in the long run as a result of the changes.

• **Selling the product.** "Planning can take a great deal of time and work and not show much in the way of results for many months, but we now have the beginning of useful products," says the Authority's Robert A. Keith, director of planning and development. The Board has designated planning, development and marketing as one, single over-all function, and MBTA is planning a total transportation service "from buttons and uniforms to automatic train controls."

Under Keith is a former railroad marketing man, (Minneapolis & St. Louis) C. Roger Brussee, whose job will be to develop promotion and customer information programs, pricing studies, and market research studies on behavioral attitude, and forecasting. Brussee and his staff of six will be bringing to a transit operation a marketing approach that has proved itself with industry generally, and more recently with railroads.

Board Chairman McCormack has great hopes for the new department:

"The marketing approach, that is, the recognition of the dominant position of the customer in operating any business, is new to the transit industry. We here at the Authority have seen American business universally adopt this principle with considerable success and we have been eager to implement such modern business practices here in Boston."

• **Back at the drawing board.** The high-priority project on the Authority's timetable right now is the proposed rail rapid transit route from South Station through Quincy and Braintree to South Braintree. The route would follow the roadbed of the New Haven's Old Colony line, which hasn't seen a passenger train since commuter service was dropped in 1959.

While the New Haven now uses a portion of the line for freight service (hampered by a burned out bridge over the Neponset River) it has worked out an agreement with the Authority to turn over the line for $2.4 million. The New Haven is already on the Authority's payroll, as is the Boston & Maine, collecting more than $1 million annually for providing commuter service.

The South Shore project, which has been entangled in controversy since the first proposal was made in the late '50s, would be a two-rail route that would carry commuters up to 75 mph over the 15 miles from Boston to Braintree. ■

Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Second Quarter and Six Months' Figures of Calendar Year 1965

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1965	Total (inc. misc.) 1964	Operating Expenses: Maint. Way and Structures: Total 1965	Total 1964	Deprec. and Retirements	Maint. Equipment: Total 1965	Total 1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	Total 1964	Operating ratio 1965	Operating ratio 1964	Net from railway operation	Railway tax accruals	Net Railway operating income 1965	Net Railway operating income 1964
Akron, Canton & Youngstown	3 mos.	171	1,728	....	1,789	1,648	207	177	18	297	263	81	120	574	1,302	1,221	72.8	74.1	486	236	248	240
	6 mos.	171	3,264	....	3,372	3,081	384	322	36	574	538	161	234	1,148	2,544	2,406	75.4	78.1	828	404	433	334
Atchison, Topeka & Santa Fe	3 mos.	12,984	138,370	10,415	163,975	166,935	21,362	21,550	2,364	31,172	31,942	9,046	4,567	60,001	124,969	128,023	76.2	76.7	39,006	16,850	21,398	19,685
	6 mos.	12,984	261,815	17,786	309,494	315,578	40,947	39,961	4,772	62,399	64,913	18,683	9,269	117,123	246,142	247,114	79.5	78.3	63,352	28,873	32,714	34,809
Atlantic Coast Line	3 mos.	5,721	45,430	3,325	52,044	47,249	5,958	5,299	605	8,957	8,259	2,652	2,029	19,751	39,432	36,329	75.8	76.9	12,612	4,175	4,820	4,051
	6 mos.	5,721	89,062	7,954	103,785	96,204	11,935	10,710	1,148	17,765	16,709	5,166	4,055	39,552	78,917	73,590	76.0	76.5	24,868	8,175	9,695	8,765
Baltimore & Ohio	3 mos.	5,743	95,501	2,945	104,846	100,501	12,787	14,133	1,440	16,193	15,570	2,550	2,932	39,450	77,238	74,837	73.7	74.5	27,609	6,562	8,915	7,857
	6 mos.	5,745	180,243	5,134	197,701	189,061	22,171	24,139	2,880	31,578	31,423	5,121	5,569	78,396	149,101	145,225	75.4	76.8	48,600	12,946	13,793	10,975
Bangor & Aroostook	3 mos.	544	3,528	69	3,679	3,665	832	795	69	952	872	404	88	1,011	3,119	3,031	84.8	82.7	561	37	978	542
	6 mos.	544	8,210	120	8,476	7,637	1,901	1,678	134	2,003	1,853	794	169	2,359	6,910	6,425	81.5	84.1	1,566	554	1,687	1,020
Bessemer & Lake Erie	3 mos.	202	7,712	....	7,819	7,808	781	664	104	1,210	1,859	103	141	1,528	4,197	4,600	53.7	58.9	3,622	2,041	2,368	1,852
	6 mos.	202	13,271	....	13,490	12,399	1,400	1,175	200	3,218	3,101	473	265	2,942	8,741	8,206	64.8	66.2	4,750	3,460	3,266	2,596
Boston & Maine	3 mos.	1,527	13,570	943	16,389	16,072	1,858	1,864	440	2,173	2,256	694	340	6,859	12,101	12,669	73.8	78.8	4,287	1,219	1,634	826
	6 mos.	1,527	26,524	1,967	32,210	31,672	3,705	3,787	866	4,308	4,490	1,391	683	14,047	24,467	25,326	76.0	80.0	7,743	2,412	2,536	1,090
CPR Lines in Maine	3 mos.	234	1,916	86	2,067	1,491	277	312	59	279	219	54	45	444	1,152	1,073	55.7	71.9	915	81	603	109
	6 mos.	234	4,284	167	4,570	3,947	555	588	118	682	547	108	83	1,125	2,680	2,439	58.6	61.8	1,890	165	1,060	759
Central of Georgia	3 mos.	1,744	11,704	269	12,540	10,930	2,918	3,215	146	2,401	2,705	670	433	4,511	11,024	11,971	87.9	109.5	1,516	548	497	—472
	6 mos.	1,744	22,291	615	24,000	22,500	5,434	6,197	286	4,800	5,658	1,336	867	8,817	21,465	23,766	89.4	105.6	2,535	899	850	—417
Central RR Co. of New Jersey	3 mos.	576	10,162	1,252	12,849	12,180	1,294	1,366	287	2,276	2,549	449	333	6,464	11,148	11,394	86.8	93.6	1,701	1,385	—657	—1,308
	6 mos.	576	19,800	2,521	25,199	23,737	2,668	2,850	570	4,488	5,033	748	614	13,068	22,311	22,744	88.5	95.8	2,888	2,802	—1,959	—3,454
Central Vermont	3 mos.	382	2,058	90	2,300	2,255	554	513	54	304	310	26	54	1,013	2,013	1,971	87.5	87.4	287	167	—207	—221
	6 mos.	382	3,900	203	4,414	4,477	1,209	947	108	605	576	50	106	1,998	3,943	3,770	89.3	84.2	471	335	—500	—271
Chesapeake & Ohio	3 mos.	5,119	96,276	1,528	103,697	95,385	10,900	11,100	1,504	18,179	17,611	6,307	2,455	38,838	76,497	72,247	73.8	75.7	27,200	11,508	14,702	15,727
	6 mos.	5,119	180,353	2,512	192,335	181,764	21,000	21,500	3,030	36,046	34,637	12,645	4,924	75,824	150,070	141,565	78.0	77.9	42,265	18,869	23,434	26,958
Chicago & Eastern Illinois	3 mos.	862	9,171	381	10,475	9,659	1,140	1,251	127	1,440	1,670	527	377	3,879	7,457	7,800	71.2	80.8	3,018	616	1,613	411
	6 mos.	862	17,232	705	19,764	18,218	2,177	2,189	224	2,887	3,219	1,019	750	7,733	14,858	14,821	75.2	81.3	4,906	1,210	2,029	770
Chicago & Illinois Midland	3 mos.	121	2,078	....	2,118	2,387	143	127	22	279	396	81	84	473	1,124	1,267	53.1	53.1	993	553	331	480
	6 mos.	121	4,047	....	4,120	4,769	258	327	43	578	850	161	170	933	2,240	2,617	54.4	54.9	1,880	1,034	607	911
Chicago & North Western	3 mos.	10,394	52,292	4,474	59,185	55,129	9,101	9,405	1,324	9,178	9,688	3,386	1,870	22,589	45,699	45,790	77.2	83.1	13,487	3,940	4,407	2,223
	6 mos.	10,405	98,031	8,773	111,822	106,380	16,915	17,271	2,571	18,346	19,181	6,706	3,714	44,670	89,698	89,585	80.2	84.2	22,124	7,846	5,421	3,370
Chicago, Burlington & Quincy	3 mos.	8,546	53,498	5,043	65,191	64,064	9,816	9,432	1,251	12,716	12,365	4,115	2,236	27,824	55,900	52,619	85.7	82.1	9,291	4,932	3,280	5,576
	6 mos.	8,546	106,407	9,380	128,822	128,191	17,416	17,463	2,492	25,556	24,050	8,150	4,423	55,061	109,289	103,148	84.8	80.5	19,533	10,064	7,263	12,033
Chicago Great Western	3 mos.	1,458	7,183	13	7,655	8,087	1,074	1,139	162	1,364	1,450	423	373	2,897	6,040	6,100	78.9	75.4	1,615	619	148	598
	6 mos.	1,458	14,284	28	15,213	15,832	1,966	2,153	305	2,714	2,836	831	749	5,818	11,894	11,995	78.2	75.8	3,319	1,196	435	1,153
Chic., Milw., St. Paul & Pacific	3 mos.	10,528	48,148	2,915	57,785	55,316	7,817	8,632	1,266	9,153	9,404	2,868	1,705	24,324	46,921	46,480	81.2	84.0	10,865	4,987	1,943	1,440
	6 mos.	10,530	94,683	5,605	113,038	109,697	14,794	15,538	2,531	18,251	18,617	5,736	3,359	49,088	93,388	91,067	82.6	83.0	19,650	9,908	2,930	4,020
Chicago Rock Island & Pacific	3 mos.	7,793	45,847	2,961	53,465	52,373	7,900	7,112	858	9,589	8,737	2,292	1,686	23,002	45,345	41,487	84.8	79.2	8,120	4,169	—797	2,336
	6 mos.	7,793	86,305	5,745	101,326	102,314	13,928	12,734	1,643	18,844	17,480	4,587	3,303	44,598	86,921	81,423	85.8	79.6	14,405	8,376	—2,387	4,628
Clinchfield	3 mos.	306	6,263	....	6,301	5,888	602	511	67	1,042	1,058	435	229	1,607	3,700	3,621	58.7	61.5	2,601	615	2,236	1,714
	6 mos.	306	12,283	....	12,361	11,852	1,168	983	134	2,028	2,171	847	466	3,217	7,323	7,256	59.2	61.2	5,038	1,230	4,083	3,177
Colorado & Southern	3 mos.	709	3,175	153	3,757	3,997	553	481	57	752	639	260	97	1,622	3,270	3,165	87.0	79.2	487	255	165	259
	6 mos.	709	6,359	273	7,507	7,758	1,030	982	111	1,453	1,277	519	196	3,277	6,471	6,311	86.2	81.3	1,036	479	356	526
Ft. Worth & Denver	3 mos.	1,037	4,420	293	5,379	5,354	728	733	97	743	744	136	208	2,466	4,516	4,518	84.0	84.4	863	317	—230	—8
	6 mos.	1,037	8,515	504	10,312	10,313	1,334	1,421	167	1,485	1,595	265	439	4,741	8,720	8,943	84.6	86.7	1,593	632	—560	—186
Delaware & Hudson	3 mos.	744	10,335	235	10,769	10,519	1,134	1,050	246	1,799	1,944	493	348	3,694	7,719	7,665	71.7	72.9	3,050	1,775	1,560	1,329
	6 mos.	744	20,282	538	21,238	20,779	2,215	2,032	512	3,976	3,949	1,050	683	7,492	15,826	15,363	74.5	73.9	5,412	3,004	2,580	2,477
Denver & Rio Grande Western	3 mos.	2,163	19,831	663	21,012	19,744	2,742	2,445	378	3,285	2,780	1,168	761	7,064	15,089	13,599	71.8	68.9	5,924	3,160	3,134	3,049
	6 mos.	2,163	38,354	1,247	40,664	38,379	4,685	4,204	730	6,520	5,599	2,247	1,530	13,903	29,071	26,455	71.5	68.9	11,593	5,986	6,147	5,793
Detroit & Toledo Shore Line	3 mos.	50	1,629	....	1,763	1,668	185	156	12	237	276	88	71	653	1,205	1,176	68.4	70.5	557	201	129	105
	6 mos.	50	3,551	....	3,799	3,496	383	332	25	470	508	176	139	1,381	2,490	2,321	65.5	66.4	1,309	454	341	282
Detroit, Toledo & Ironton	3 mos.	464	6,431	....	6,794	6,023	584	567	70	1,395	1,288	610	202	1,950	4,433	4,018	65.2	66.7	2,361	411	1,505	1,411
	6 mos.	464	12,943	....	13,702	12,011	1,162	1,168	129	2,759	2,496	1,165	422	3,927	8,888	7,989	64.9	66.5	4,815	817	3,152	2,845
Duluth, Missabe & Iron Range	3 mos.	517	9,801	....	11,037	10,840	1,130	951	202	1,225	1,313	551	44	2,881	6,007	5,679	54.4	52.4	5,030	888	4,230	4,385
	6 mos.	518	10,889	....	12,255	11,773	2,032	1,764	385	2,509	2,549	1,102	92	4,277	10,265	9,530	83.8	80.9	1,990	1,208	964	1,310

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Second Quarter and Six Months' Figures of Calendar Year 1965

Name of Road		Average mileage operated during period	Operating Revenues				Operating Expenses										Operating ratio		Net from railway operation	Railway tax accruals	Net Railway operating income	
					Total (inc. misc.)		Maint. Way and Structures			Maint. Equipment												
			Freight	Pass.	1965	1964	Total 1965	Total 1964	Deprec. and Retirements	Total 1965	Total 1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	Total 1964	1965	1964				
Duluth, Winnipeg & Pacific	3 mos.	174	1,801	....	1,802	1,731	311	379	16	147	144	3	..	523	1,015	1,079	56.3	59.5	788	158	338	219
	6 mos.	174	3,713	....	3,715	3,616	528	595	32	322	290	6	..	1,168	2,094	1,996	56.4	55.2	1,621	318	721	788
Elgin, Joliet & Eastern	3 mos.	205	10,111	....	14,090	12,628	1,312	1,239	102	2,142	1,982	379	151	5,046	9,696	9,057	68.8	71.8	4,394	2,355	1,490	1,372
	6 mos.	205	19,490	....	27,206	24,895	2,299	2,131	202	4,385	3,877	796	295	10,139	19,187	17,267	70.5	69.4	8,019	4,089	2,614	2,914
Erie Lackawanna	3 mos.	2,903	49,620	3,154	58,551	54,641	6,213	5,667	1,194	9,512	8,889	2,368	1,320	27,167	46,892	44,291	80.1	81.1	11,659	4,566	3,689	1,700
	6 mos.	2,908	94,198	6,212	111,427	105,636	11,261	10,859	2,392	18,994	18,024	4,755	2,632	53,219	91,368	88,157	82.0	83.5	20,059	9,066	3,988	368
Florida East Coast	3 mos.	572	6,145	....	6,237	5,808	918	1,013	210	1,071	731	378	148	2,039	4,626	4,019	74.2	69.2	1,610	629	458	458
	6 mos.	572	12,698	....	12,912	11,704	1,853	1,745	318	2,049	2,116	734	317	4,159	9,277	8,381	71.8	71.6	3,635	1,357	992	782
Georgia Railroad	3 mos.	323	1,839	26	2,095	1,961	244	285	29	396	381	106	139	889	1,796	1,771	85.7	90.3	300	130	197	77
	6 mos.	323	3,535	50	4,046	3,924	497	559	57	782	753	211	278	1,777	3,590	3,544	88.7	90.3	455	260	231	129
Grand Trunk Western	3 mos.	946	15,220	580	16,968	15,515	2,028	1,937	194	2,303	2,194	200	287	7,351	12,750	12,080	75.1	77.9	4,218	1,302	381	142
	6 mos.	946	29,990	1,125	33,423	30,385	3,991	3,780	382	4,504	4,455	400	567	14,851	25,466	23,814	76.2	78.4	7,957	2,592	475	—110
Great Northern	3 mos.	8,261	55,892	2,587	63,163	59,460	9,285	10,060	1,135	11,556	10,245	3,167	1,828	24,254	50,301	47,365	79.6	79.7	12,862	5,632	6,571	5,701
	6 mos.	8,260	103,478	4,373	116,138	117,861	16,892	17,032	2,140	21,553	20,011	5,963	3,629	47,548	96,136	90,819	82.8	77.1	20,002	10,570	8,163	12,248
Gulf, Mobile & Ohio	3 mos.	2,744	18,756	560	20,684	19,506	2,736	2,413	245	3,842	3,980	996	817	7,274	15,617	14,832	75.5	76.0	5,067	1,472	2,305	2,300
	6 mos.	2,744	36,922	1,116	40,726	39,099	5,452	4,920	517	7,801	7,836	2,006	1,618	14,502	31,275	29,820	76.8	76.3	9,451	2,846	4,156	4,344
Illinois Central	3 mos.	6,461	60,058	5,424	70,795	65,329	9,533	9,224	1,187	12,782	12,576	3,269	2,004	27,740	55,950	53,215	79.0	81.5	14,845	6,442	5,482	4,163
	6 mos.	6,461	117,002	10,753	138,172	132,489	18,339	18,065	2,438	25,190	25,419	6,503	3,976	55,804	111,131	107,857	80.4	81.4	27,041	11,279	9,812	8,307
Illinois Terminal	3 mos.	339	2,055	....	2,364	2,288	253	253	12	361	360	77	120	900	1,799	1,853	76.1	81.0	565	176	81	—47
	6 mos.	339	3,935	....	4,508	4,386	502	505	34	722	721	153	241	1,788	3,579	3,640	79.4	83.0	929	347	—47	—161
Kansas City Southern	3 mos.	894	10,399	265	11,902	12,541	1,118	1,225	162	1,602	1,556	443	326	3,867	7,343	7,446	61.7	59.4	4,559	1,437	2,151	2,301
	6 mos.	894	19,884	476	22,734	25,110	1,958	2,406	322	3,118	3,043	888	669	7,619	14,224	14,651	62.6	58.3	8,510	2,664	3,813	4,609
Lake Superior & Ishpeming	3 mos.	135	1,744	....	2,194	1,912	246	197	54	295	272	127	5	537	1,155	958	52.7	50.6	1,039	163	921	675
	6 mos.	135	2,070	....	2,566	2,169	473	358	109	593	514	260	10	758	1,978	1,597	77.1	73.6	588	292	407	264
Lehigh Valley	3 mos.	1,046	11,426	....	11,797	11,511	1,237	1,281	265	1,634	1,755	272	402	5,655	9,663	9,873	81.9	85.8	2,134	999	—270	—284
	6 mos.	1,047	22,155	....	22,867	23,107	2,365	2,622	532	3,163	3,591	704	805	11,390	19,146	20,095	83.7	87.0	3,721	1,979	—819	—800
Long Island	3 mos.	340	2,376	16,856	19,938	20,306	2,586	3,138	300	3,855	3,796	445	254	10,326	18,177	18,176	91.2	89.5	1,769	1,141	—277	212
	6 mos.	340	4,654	32,801	38,836	38,780	5,418	5,852	597	7,836	7,921	892	404	20,536	35,363	35,928	93.6	92.6	2,473	2,258	—1,585	—831
Louisiana & Arkansas	3 mos.	746	6,450	151	7,046	6,486	845	813	58	938	875	333	267	2,261	4,577	4,517	65.0	69.7	2,469	671	926	894
	6 mos.	746	12,705	270	13,836	13,028	1,549	1,663	113	1,810	1,696	666	548	4,491	8,925	8,852	64.5	67.9	4,911	1,349	1,978	1,506
Louisville & Nashville	3 mos.	5,647	64,782	1,629	70,599	65,704	8,314	8,316	1,066	13,599	11,592	5,667	1,735	25,913	53,430	50,205	75.7	76.4	17,169	6,137	9,811	8,211
	6 mos.	5,647	122,541	2,937	133,912	127,667	15,951	15,707	2,103	27,140	24,718	11,278	3,432	51,532	105,827	101,503	79.0	79.5	28,085	9,843	16,116	13,682
Maine Central	3 mos.	934	5,290	3	5,456	5,525	1,045	1,016	84	1,113	1,046	282	90	1,837	4,437	4,302	81.3	77.9	1,019	405	463	672
	6 mos.	934	11,024	4	11,341	11,357	2,022	1,973	157	2,212	2,101	545	183	3,791	8,916	8,713	78.6	76.7	2,425	872	1,129	1,400
M-K-T Lines	3 mos.	2,904	11,555	56	12,540	13,107	1,765	2,469	231	2,205	2,744	696	501	6,087	11,218	11,671	89.5	89.0	1,321	1,036	—1,518	—1,305
	6 mos.	2,904	21,856	109	23,711	25,894	3,358	4,940	583	4,292	5,667	1,404	1,016	10,863	20,827	23,347	87.8	90.2	2,884	2,070	—2,626	—3,061
Missouri Pacific	3 mos.	9,177	70,220	1,618	78,813	77,793	10,587	11,032	1,224	12,851	12,994	3,698	1,942	28,046	56,727	57,462	72.0	73.9	22,086	5,736	10,185	9,785
	6 mos.	9,177	136,513	2,964	153,330	153,089	20,221	21,177	2,282	25,626	26,050	7,340	3,837	54,715	111,611	113,383	72.8	74.1	41,718	10,540	19,696	18,874
Monon	3 mos.	541	4,398	70	4,833	4,630	549	624	57	776	758	256	282	1,749	3,765	3,722	77.9	80.4	1,067	287	542	369
	6 mos.	541	8,680	134	9,469	9,419	978	1,194	117	1,497	1,626	512	531	3,578	7,355	7,504	77.7	79.7	2,114	592	1,005	737
New York Central	3 mos.	9,805	135,795	13,423	171,561	162,829	18,274	17,544	2,922	28,482	27,901	7,224	3,215	75,838	133,484	129,458	77.8	79.5	38,076	12,183	14,909	11,561
	6 mos.	9,808	259,709	25,054	328,508	316,363	34,707	33,672	5,869	56,157	56,475	14,315	6,426	152,571	265,681	258,306	80.9	81.6	62,827	24,128	18,452	15,006
Pittsburgh & Lake Erie	3 mos.	214	9,016	33	9,670	9,292	965	1,087	192	2,953	2,744	1,009	243	2,823	7,571	7,373	78.3	79.3	2,099	2,930	2,957	3,426
	6 mos.	214	17,108	72	18,366	16,072	1,875	2,331	390	6,136	5,424	2,071	478	5,787	15,346	14,678	84.0	91.3	2,930	5,599	5,378	5,276
New York, New Haven & Hartford	3 mos.	1,608	16,935	9,533	30,357	30,909	4,208	4,500	769	5,905	6,266	1,442	626	15,259	28,267	28,587	93.1	92.5	2,099	2,037	—3,954	—3,396
	6 mos.	1,622	32,724	19,133	59,787	61,007	8,388	8,535	1,515	11,842	12,221	2,896	1,253	30,956	57,052	57,143	95.4	93.7	2,735	4,505	—9,709	—7,772
Norfolk & Western	3 mos.	7,578	142,382	1,252	150,983	140,645	13,787	13,686	2,194	22,421	21,057	8,165	3,555	51,016	96,156	90,746	63.7	64.5	54,827	19,439	30,929	26,253
	6 mos.	7,578	273,887	2,323	290,388	272,729	26,834	26,391	4,595	43,575	41,264	16,277	7,095	101,046	189,348	178,708	65.2	65.5	101,041	36,516	57,447	49,367
Norfolk Southern	3 mos.	593	2,111	....	2,164	2,185	424	401	62	375	394	134	142	740	1,883	1,919	87.0	87.8	289	153	8	43
	6 mos.	593	4,147	....	4,255	4,249	814	752	122	719	738	271	292	1,488	3,741	3,722	87.9	87.6	513	308	—7	36
Northern Pacific	3 mos.	6,777	42,470	2,158	47,716	44,290	7,972	8,509	1,317	9,044	8,681	2,820	1,374	19,300	40,931	39,517	85.8	89.2	6,785	5,093	3,254	1,864
	6 mos.	6,777	81,582	3,298	90,883	88,687	14,419	14,720	2,318	17,823	17,511	5,754	2,827	38,687	80,135	77,128	88.2	87.0	10,748	9,481	4,167	5,043
Northwestern Pacific	3 mos.	328	1,476	....	1,490	3,057	303	518	56	116	134	4	19	519	1,038	1,548	69.7	50.5	452	170	—169	344
	6 mos.	328	2,441	—1	2,472	5,749	530	974	99	232	260	9	38	943	1,888	2,981	76.4	51.8	584	368	—577	583

(Continued on page 26)

Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

THREE TIMES LONGER than typical tank car in use after World War II — and able to hold seven times as much — the new 96-foot

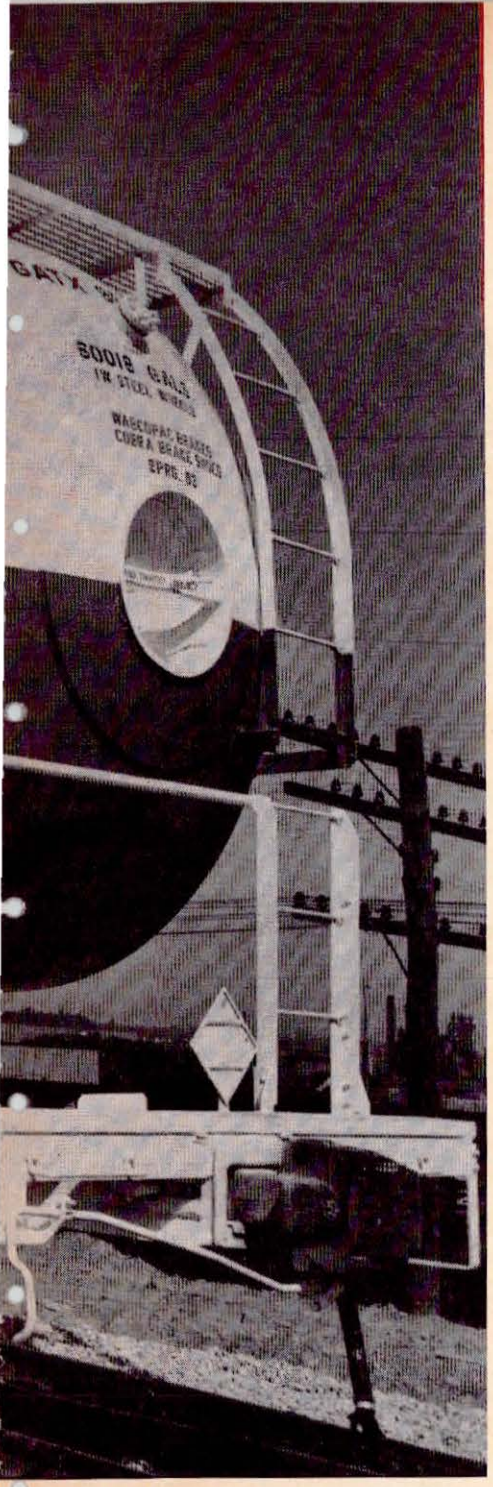
GATX rolls out its whopper tank car

The 60,000-gallon creation, reportedly the largest tank car in the world, is expected to provide useful operational data.

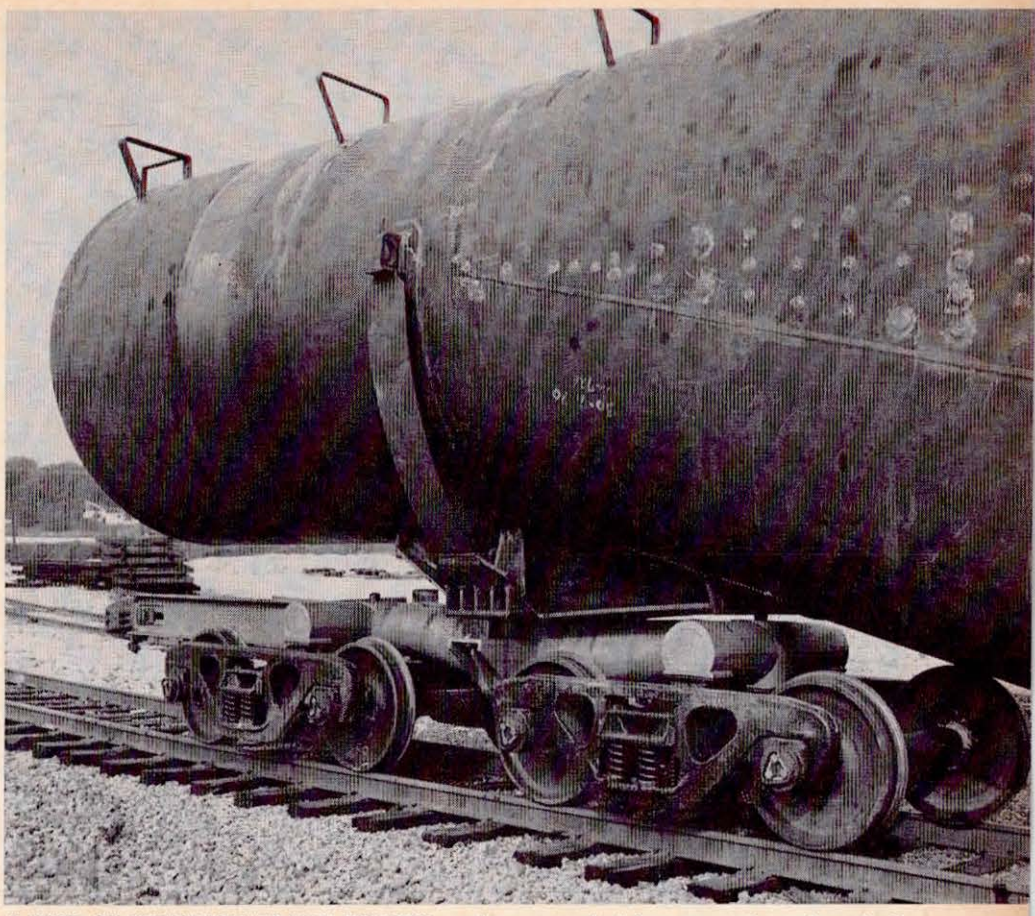
General American's new tank car is a whopper. The 60,000 gallon unit was described as the world's largest last week by J. R. Scanlin, vice president, General American Transportation Corp., and general manager, Tank Car Division. It will become, in effect, a laboratory on wheels.

"Instead of making elaborate forecasts for marketing this largest tank car ever built, we are using it for the immediate future as a rolling laboratory to develop in-service data that will help us to meet the accelerated demand for larger tank cars," Scanlin said.

The car is now in Baton Rouge, La.,



General American car has no center sill.



A PAIR OF STANDARD 70-TON TRUCKS, under a span bolster, supports each end of the huge car. Loaded with liquefied petroleum gas, the car would weigh almost 218 tons.

where it will be shown to the October meeting of the Manufacturing Chemists Association. With an over-all length of more than 96 feet, the new car is approximately three times as long as the typical tank car in use at the end of World War II, with more than seven times the capacity.

● **Component suppliers.** Each end of the car is mounted on a pair of standard 70-ton Barber S-2A stabilized four-wheel, roller bearing trucks equipped with 33-inch one-wear steel wheels, D-3 spring groups, Wabcopac brake units and Cobra shoes. The large center section made it necessary to install separate brake systems for each two-truck unit. The Ellcon-National vertical hand brake is used.

There is no center sill, stub or otherwise. Over the trucks is a special-design fabricated high-tensile steel span bolster with 1¼-inch thick sections on which the tank body bolster rests. Outboard extensions of the span bolster parallel to the truck bolsters rest on rubber pads to provide stabilization. The span bolster, which incorporates the draft sill, also carries the draft gear and coupler. Utilizing the drop-center design introduced by General American in 1961 (RA, June 12, 1961, p. 41), the large tank is more than 9 feet in diameter at each end and has a height of more than 13 feet in the middle section.

The tank is equipped with a 24-inch diameter manway at the A-end of car. The two safety valves on the top centerline of car are within protective housings having hinged covers. Side loading and unloading is provided on both sides of car at lower portion of center section of tank. Anti-skid coating is applied to the entire top of tank between the runways. A 2-inch diameter purge nozzle with a blind flange is provided at both ends of car in the tank heads. The car is within AAR clearance diagram plate C.

● **The potential.** Scanlin said the previous GATX "world's largest" in tank cars was the two diameter car now in use in 32,800 gallon capacity, introduced in June 1961. Adding that the patented features of this previous car are now being used in the new 60,000 gallon car, he went on to say, "We foresee very interesting possible use for a car embodying these engineering concepts for liquefied petroleum gas and anhydrous ammonia.

"Our first objective is to collect data on this car under various conditions of speed and roadbeds. As a result of almost five years of intensive effort, this car can be considered an outstanding achievement of our engineering, scientific and manufacturing organizations."

The new car measures 96 feet 5⅞ inches over strikers and 65 feet 5⅞ inches between bolster centers. Height from top of rail to centerline of tank is 9 feet 7 15/16 inches; from top of rail to top of runways is 14 feet 9¼ inches, and center of gravity from top of rail is 7 feet 6 inches. Width over the grabirons is 10 feet 1½ inches. The ICC tank designation is 114A 340-W. ■

Railway Age Service Page

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

Second Quarter and Six Months' Figures of Calendar Year 1965

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1965	1964	Operating Expenses: Maint. Way and Structures: Total 1965	1964	Deprec. and Retirements	Maint. Equipment: Total 1965	1964	Deprec. and Retirements	Traffic	Transportation	Total 1965	1964	Operating ratio: 1965	1964	Net from railway operation	Railway tax accruals	Net Railway operating income: 1965	1964
Pacific Electric	3 mos.	316	3,437	....	3,852	3,876	508	490	66	177	95	8	61	1,987	3,020	2,873	78.4	74.1	832	641	—585	—355
	6 mos.	316	6,923		7,765	7,837	1,045	1,027	143	280	182	16	122	3,992	5,928	5,704	76.3	72.8	1,837	1,162	—914	—534
Pennsylvania	3 mos.	9,632	182,370	20,258	228,643	215,988	23,389	24,051	4,334	37,576	38,377	8,452	3,438	99,594	176,058	170,782	77.0	79.1	52,585	15,911	14,344	11,562
	6 mos.	9,632	351,370	40,323	443,915	424,058	43,791	43,745	8,648	71,521	75,097	16,584	6,770	200,959	347,261	337,849	78.2	79.7	96,654	30,303	22,177	20,009
Penn-Reading Seashore Lines	3 mos.	341	1,880	104	2,099	1,940	478	388	165	395	446	75	13	1,359	2,394	2,365	114.0	121.9	—295	160	—947	—1,050
	6 mos.	341	3,650	181	4,061	3,711	877	870	265	787	868	151	26	2,784	4,755	4,765	117.1	128.4	—694	347	—2,020	—2,280
Piedmont & Northern	3 mos.	150	1,473	....	1,525	1,531	129	159	19	110	105	29	110	330	820	785	53.8	51.3	705	311	186	189
	6 mos.	150	2,987		3,093	2,991	256	280	36	213	211	59	225	655	1,621	1,552	52.4	51.9	1,473	660	412	361
Reading	3 mos.	1,276	23,600	1,398	26,843	23,848	3,566	3,803	624	4,692	5,081	1,595	655	10,800	21,230	21,553	79.1	99.4	5,613	1,784	2,370	—396
	6 mos.	1,276	45,891	2,842	52,270	47,414	7,026	6,840	1,193	9,472	10,025	3,222	1,270	21,826	42,617	42,152	81.5	89.5	9,653	3,697	3,327	—1,060
Richmond, Fred., & Potomac	3 mos.	118	4,763	1,102	6,833	6,423	562	521	96	997	966	219	90	2,328	4,422	4,152	64.7	64.6	2,411	1,219	825	738
	6 mos.	118	9,109	2,236	13,375	12,694	1,094	1,031	193	1,958	1,911	439	185	4,704	8,868	8,521	66.3	67.1	4,507	2,247	1,566	1,380
St. Louis-San Francisco	3 mos.	4,676	33,927	304	36,490	33,625	5,036	4,687	1,055	5,022	4,988	1,882	1,290	13,108	26,858	26,627	73.6	79.2	9,631	4,104	4,404	3,099
	6 mos.	4,676	65,465	557	70,512	64,857	9,873	8,296	1,704	9,931	9,799	3,790	2,576	25,760	52,858	51,113	74.9	78.8	17,674	7,333	7,903	5,936
St. Louis Southwestern	3 mos.	1,554	22,153	1	22,372	20,603	1,819	1,919	218	2,973	2,763	1,464	626	7,380	13,563	12,448	60.6	60.4	8,809	3,136	5,808	4,247
	6 mos.	1,554	43,899	1	44,330	41,504	3,509	3,589	424	5,887	5,455	2,853	1,234	14,205	26,374	24,459	59.5	59.6	17,955	6,994	11,172	8,412
Seaboard Air Line	3 mos.	4,123	39,049	3,740	46,430	43,496	6,895	6,562	782	8,302	8,143	2,624	1,701	17,489	36,500	34,394	78.6	79.1	9,930	4,010	4,366	4,132
	6 mos.	4,123	77,140	7,571	92,381	88,128	12,925	12,674	1,533	16,568	16,268	5,237	3,389	34,546	71,665	68,509	77.6	77.7	20,715	8,557	9,254	8,775
Soo Line	3 mos.	4,688	21,539	59	22,204	19,622	3,351	3,334	326	2,819	2,848	798	726	8,141	16,132	15,334	72.7	78.1	6,072	1,579	2,956	1,799
	6 mos.	4,688	39,636	108	40,895	40,857	6,073	5,783	649	5,573	6,206	1,618	1,421	16,083	31,205	30,867	76.3	75.5	9,690	3,099	3,953	4,654
Southern Railway	3 mos.	6,254	68,879	1,944	75,662	72,402	8,972	8,676	1,207	13,131	12,566	4,201	1,926	24,843	53,521	49,592	70.7	68.5	22,151	7,606	10,039	11,206
	6 mos.	6,254	135,432	3,677	148,758	143,802	16,945	18,161	2,285	25,571	24,662	8,228	3,715	48,746	104,177	99,675	70.0	69.3	44,581	15,193	20,442	21,058
Alabama Great Southern	3 mos.	327	4,261	114	4,855	4,297	650	724	71	985	958	266	161	1,608	3,792	3,577	78.1	83.2	1,053	335	404	319
	6 mos.	327	8,364	210	9,578	8,441	1,283	1,385	177	1,881	1,842	532	318	3,194	7,443	6,993	77.7	82.8	2,135	688	871	671
Cinn., New Orleans & Tex. Pac.	3 mos.	337	10,008	157	10,885	9,999	1,142	1,388	253	2,515	2,446	887	325	3,319	8,021	7,707	73.7	77.1	2,864	1,048	1,867	1,687
	6 mos.	337	18,812	310	20,603	19,930	2,258	2,616	476	4,944	4,820	1,786	626	6,533	15,864	15,092	77.0	75.7	4,739	1,745	3,212	3,431
Georgia, Southern & Florida	3 mos.	395	1,909	56	2,162	2,312	380	354	51	195	237	30	60	777	1,609	1,532	74.4	66.3	552	98	—95	163
	6 mos.	395	3,933	117	4,463	4,521	768	738	87	398	476	60	118	1,489	3,149	3,068	70.6	67.9	1,314	201	—6	275
New Orleans & Northeastern	3 mos.	203	2,353	88	2,673	2,648	411	484	82	705	720	303	105	904	2,411	2,338	90.2	88.3	262	241	118	337
	6 mos.	203	4,857	166	5,490	5,511	892	954	172	1,397	1,425	612	207	1,755	4,822	4,669	87.8	84.7	668	475	368	714
Southern Pacific	3 mos.	11,485	180,929	5,267	195,229	186,922	21,620	12,688	2,457	38,595	39,257	12,160	3,339	77,201	149,716	144,862	76.7	77.6	45,513	18,376	19,928	19,655
	6 mos.	11,492	347,610	9,437	374,903	362,851	42,506	40,796	4,285	74,912	74,663	24,123	6,734	148,618	290,371	276,573	77.5	76.2	84,532	35,738	36,351	40,716
Spokane, Portland & Seattle	3 mos.	936	8,728	243	9,589	8,690	1,276	12,56	169	1,476	1,437	403	112	3,671	6,964	6,671	72.6	76.8	2,625	1,074	1,105	409
	6 mos.	936	17,008	405	18,623	17,350	2,470	2,473	342	2,863	2,862	805	234	7,200	13,633	13,146	73.2	75.8	4,990	2,038	2,097	1,301
Texas & Pacific	3 mos.	1,847	15,499	515	17,695	17,959	2,314	2,433	251	2,931	2,652	956	640	6,865	13,632	13,388	77.0	74.5	4,063	1,087	1,577	1,629
	6 mos.	1,847	31,258	850	35,399	36,260	4,755	4,362	504	5,753	5,313	1,886	1,280	13,923	27,610	26,507	78.0	73.1	7,789	2,030	2,787	3,445
Toledo, Peoria & Western	3 mos.	239	1,951	....	2,063	1,953	277	303	21	193	198	44	157	617	1,411	1,447	68.4	73.7	652	257	177	128
	6 mos.	239	3,783		4,003	3,913	462	554	41	393	382	83	317	1,241	2,732	2,779	68.2	71.0	1,271	460	367	290
Union Pacific	3 mos.	9,571	115,211	6,044	131,399	127,408	16,085	15,458	1,342	24,534	24,528	9,543	3,603	47,521	99,147	97,212	75.5	76.3	32,251	15,763	14,158	11,746
	6 mos.	9,571	227,639	10,392	257,870	253,820	30,237	29,935	3,016	49,885	50,139	18,836	7,436	95,576	197,921	194,001	76.8	76.4	59,949	29,897	24,644	20,285
Ann Arbor	3 mos.	294	2,353	....	2,396	1,981	259	270	21	426	367	122	57	1,071	1,991	1,720	83.1	86.8	405	170	29	9
	6 mos.	294	4,470	....	4,533	3,737	495	505	43	805	748	242	109	2,204	3,855	3,401	85.0	91.0	679	335	—69	—127
Western Maryland	3 mos.	872	12,443	....	13,108	11,273	1,854	1,700	183	3,158	2,568	984	390	4,389	10,398	9,242	79.3	82.0	2,709	1,498	2,118	1,990
	6 mos.	872	24,313	....	25,525	23,295	3,532	3,273	360	6,122	5,419	1,964	776	8,689	20,333	18,903	79.7	81.2	5,192	2,929	4,030	3,764
Western Pacific	3 mos.	1,184	13,399	604	14,313	13,819	1,787	1,654	274	1,961	1,854	409	799	5,105	10,735	10,272	75.0	74.3	3,578	1,507	1,819	1,952
	6 mos.	1,184	25,884	1,003	27,494	25,829	3,409	3,292	540	4,223	4,056	1,154	1,596	10,151	21,645	20,670	78.7	80.0	5,849	2,419	2,939	2,667

NOTE: New Interstate Commerce Commission qualifications for the various classes of railroads became effective Jan. 1, 1965. Operating revenues of at least $5,000,000 are required to qualify a railroad as Class I. Hence, several railroads formerly included in this compilation are no longer listed. Three other railroads once included (Wabash, Pittsburgh & West Virginia and New York, Chicago & St. Louis) are now part of the Norfolk & Western.

RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

BILINGUAL RAILROADING—Speaking of bilingual railroading in North America (as I did here Sept. 6, p. 36, citing examples from CN practices), I now have a letter from W. F. Campbell, manager of the Roberval & Saguenay line, at Arvida, Que., in French-speaking Canada, which Mr. Campbell asserts is "the oldest completely bilingual railway in Canada, if not in North America."

He has sent me a copy of "Time Table 59 and Special Instructions"—printed in both French and English, with the note that, in case of doubt, "the French version takes precedence" over the English. The company also, apparently, has a bilingual book of rules—but I haven't seen a copy of that. Without checking carefully, I would suspect that railroad French terminology in Canada may differ considerably from the French of France—in the same way that North American railroad terms are widely different from those of Britain.

It has long seemed to me that professional interchange in the railroad business could be considerably fostered if French-speaking railroaders over here would read French railway publications and compile word lists of French-Canadian terms, compared with those of France and of North American English.

Mr. Campbell wonders if there is any railroad bilingualism along the border between the U.S. and Mexico. I personally know of none, but perhaps there are readers who could set me straight. There must have been some of it a half-century ago when most Mexican lines were operated by American trained dispatchers—until the time when their Spanish-speaking co-workers succeeded in getting them ousted from the country. In this triumph of Spanish over English in Mexican railroading, that esteemed Mexican railroader, Benjamin Mendez (who retired in Dec. 1964 as general manager of the National of Mexico) was one of the active leaders.

RAILROAD JOBS DESCRIBED—The wide variety of occupations that the railroads offer, and the duties of the different railroad departments, are set forth in a 16-page illustrated pamphlet recently issued by the Association of American Railroads. "Railroads offer a greater variety of career opportunities than almost any other industry in America"—so the pamphlet asserts, and then proceeds to prove the statement by specific cases.

While there has been a marked decline in jobs on the railroads in unskilled and semi-skilled occupations, there has been an increase in the jobs requiring greater skills.

The booklet sets forth the areas of opportunity in railroad work, and the necessary qualifications for beginners in the principal occupations (including those with definite apprenticeship requirements).

It would be a favor to ambitious youngsters who might qualify for railroad work, if a supply of these pamphlets were judiciously circulated in schools and in offices in charge of employee recruiting. Railroad jobs have been reduced in quantity, but in quality were never higher, and compare favorably with those in other progressive industries.

ENLISTING THE "FANS"—Charles Luna, head of the BRT, recently criticized both railway unions and managements alike for inadequate attention to, and appreciation of, railroad "fans" or "buffs." CL, at the same time announced a contest for model railroaders to build replicas of the caboose in which the BRT was organized back in 1883.

I believe there's a lot of substance behind CL's critical observations. However, the problem is not a simple one—because it takes more than interest in some one or two aspects of railroading to make the fans' good-will effective. Somebody is needed (and who could it be?) who could find some objectives on which virtually all fans could agree. Some such agreement is needed for effective organization and action.

For instance, I know one fellow who is unquestionably enthusiastic about railroads—but largely in their earnings and traffic statements. Another "buff" limits his interest, largely, to old steam power—still another to passenger trains (old or new). The individual who could organize people with such varied interests into a coordinated force would perform a service of unparalleled value to the cause.

Any practical ideas of how the job might be done?

Freight and Passenger Car Charts

These charts are very helpful to AAR billing clerks, mechanical engineers, purchasing and stores personnel, car inspectors, write-up men, car foremen, and anyone else who needs a knowledge of car parts and their relation to each other.

The charts include a cutaway diagram of the car and a listing of important parts with arrows showing where the part is located. These charts are a part of standard training programs used on a number of major railroads.

$2 each
$10 for any six

If you are not satisfied

YOUR MONEY WILL BE REFUNDED

if you return the charts to us within 30 days

THE RAILWAY EDUCATIONAL BUREAU
1809 CAPITOL AVENUE
OMAHA 2, NEBRASKA

Please send the charts I have checked below. If I am not satisfied I will return the charts within 30 days for a full refund. I enclose a check or money order for $2.00 for each chart or $10.00 for any six charts.

- ☐ Streamlined light weight passenger car (16x25 inches)
- ☐ Covered hopper car (20x30 inches)
- ☐ Box car, AAR standard 40 ft. (23x25 inches)
- ☐ Air conditioned chair car, 1930 design (18x35 inches)
- ☐ Tank Car (22x35 inches)
- ☐ Refrigerator Car, wood sheathed, steel underframe, 1920 design (14x20 inches)

9/20/65

Name_____

Address_____

City_____ State_____

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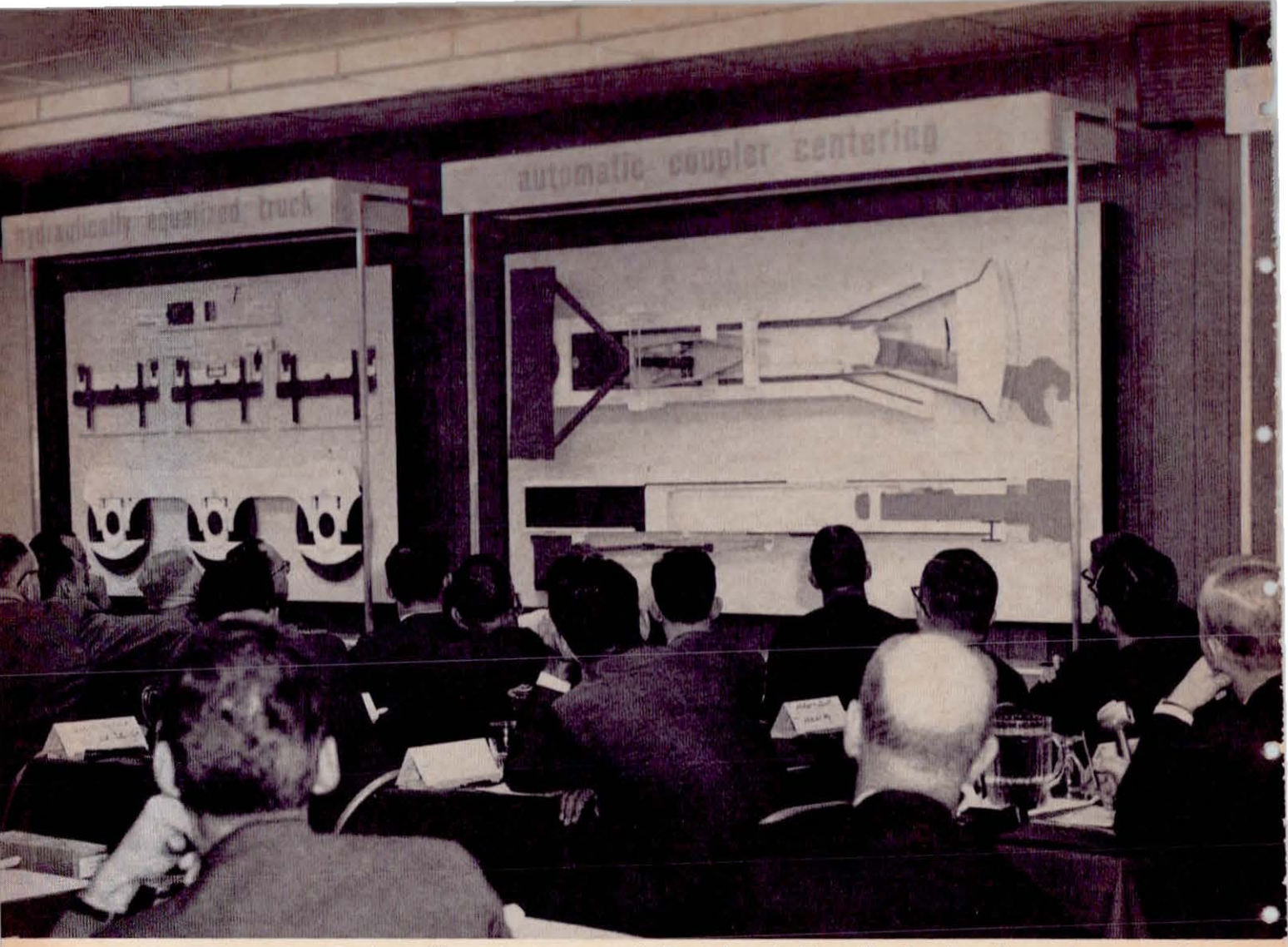
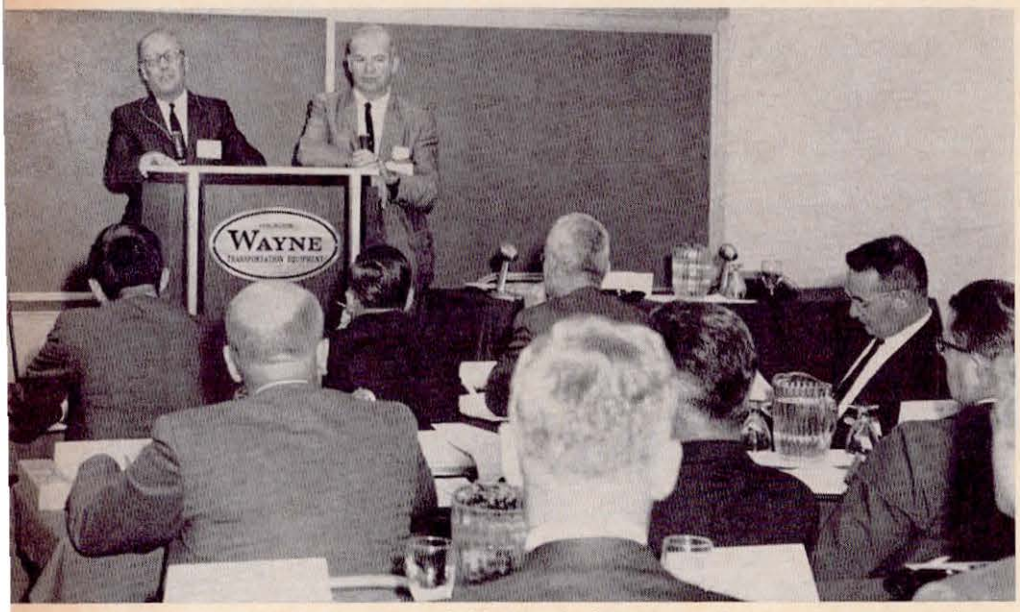


WHAT'S NEXT? Models of Symington Wayne development projects are inspected by railroad and car-line engineers; supplier sought

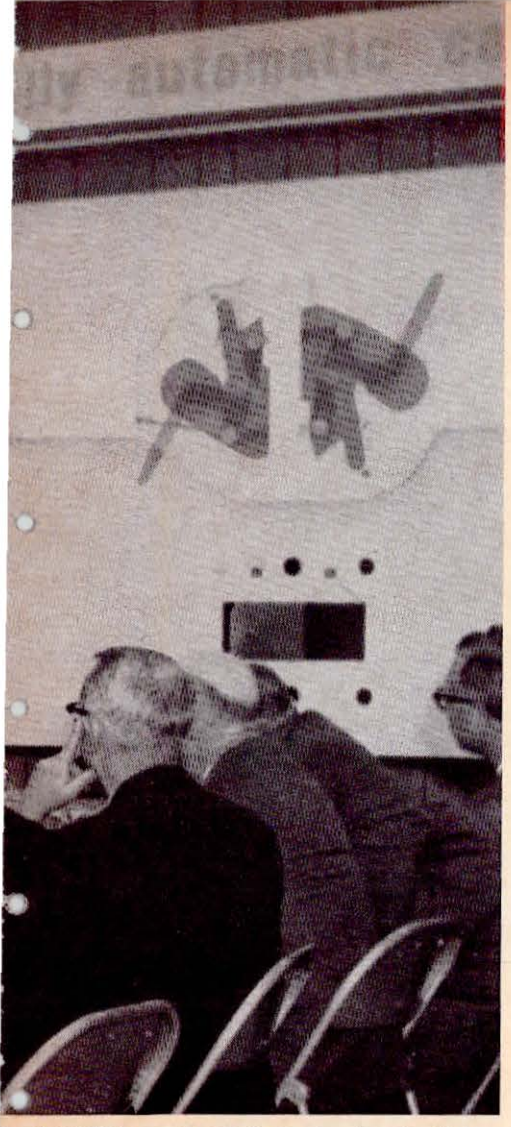
Heavy-car problems are not yet



WHAT NOW? J. W. Hawthorne (left) Atlantic Coast Line, discusses current experiences with Whopper Hopper; looking on is L. W. Smith, Symington's manager of research and engineering, who moderated conference.

Engineering conference sponsored by Symington Wayne probes many of the problems which have developed with today's high-capacity freight equipment.

A two-day conference, keynoted by a prediction that "the years ahead will witness even greater advancements in railroad techniques and technology than we have seen in the past," involved 60 railway, private-car-line and car-builder engineers late last month. The forecast about the pace of technical progress was made in Depew, N.Y., during Symington Wayne's second annual Railroad Engineering Conference by C. M. Roddewig, president of the



suggestions and opinions about potential.

resolved

Association of Western Railways.

"The brightening picture of the railroads' future reflects the willingness, the determination, indeed, of railroad management to use the pricing freedom it has gained and relate it to new cars, new roadway facilities, new tools, new operating techniques, incentive rates, and every other possible means of improving services and lowering costs," said Roddewig.

• **Resourcefulness and imagination.** Explaining that a growing national transportation market will produce a demand for any service which is attractive and economical for shippers, Roddewig continued: "The size of the total market that the railroads get will depend in a large measure upon the resourcefulness, imagination and inventiveness of the engineering people in the railroad supply industry and on the individual railroads. We must explore every opportunity to increase the competitiveness of railroad transportation. As long as we can continue doing that, the future of the railroad industry is assured."

• **Pace of technology.** The rapid pace of technological development and its attendant problems was evident at Depew as the engineers considered numerous industry quandaries. Among them:

—Combatting the effects of today's freight cars' high wheel loads and high center of gravity on track, bridges and operations;

—Economic and technical controversy over the use of four-wheel vs. six-wheel trucks under high-capacity cars;

—Appraisals of cushioning, including capacity, function and location.

During the conference, Symington Wayne engineers revealed details of three current development projects aimed at solving specific problems that confront railroad mechanical and operating departments today. These S-W projects are (1) hydraulically equalized freight-car trucks, (2) an automatic coupler centering device for long cars, and (3) a fully automatic coupler for freight and passenger cars based on the Waugh transit-car coupler.

• **Four-wheel vs. six-wheel.** The effects of high axle loads on rail and bridges, the traffic benefits to be obtained with the high-capacity cars which may produce these high axle loads, and the problems associated with high-capacity car trucks and bodies were major topics of discussion for the assembled engineers.

Currently the railway industry is confronted with decisions about mounting its high-capacity freight cars on four-, six,- and even eight-wheel trucks — sparked primarily by shipper insistence on movements of large volumes in single cars, explained S. H. Moyes, chief engineer of General American Transportation Corp. "It is obvious that the cost-weight relationship of the six-wheel truck is not now as favorable as that of the four-wheel truck," he added.

Two types of trucks, noted Moyes, have been under consideration for high-capacity GATC tank cars: the four-wheel 125-ton model and the six-wheel 150-ton model. GATC calculates that 125-ton trucks and related components under a car cost 1.38 times as much as a set of four-axle, 100-ton trucks; that for six-wheel, 150-ton trucks the figure goes to 2.52. He pointed out that trucks cannot be the sole consideration—there are related components such as underframe cushioning which must necessarily become more costly as car weights go up, irrespective of the ladings they carry.

• **Per-gallon cost.** In the final analysis, GATC calculates its tank-car investment in terms of per-gallon carrying capacity. Two typical studies, recently made, involved tank cars for high-density (phosphorus) and low-density (latex) ladings. Using the 100-ton car as a base, the cost indices on a per-gallon basis were:

	Phosphorus	Latex
100-ton car 4-wheel trucks ...	1.00	1.00
125-ton car 4-wheel trucks ...	0.97	0.95
150-ton car 6-wheel trucks ...	1.30	1.25

Similar results have been obtained by the New York Central in its studies of equipment investment for moving dry bulk commodities, reported H. G. Hohorst, NYC's director of market planning and research. He cited NYC experience with Flexi-Flo service (RA, March 9, 1964, p. 13) which is attracting a growing volume of cement traffic by combining the railroad's inherent low-cost, high-speed line haul over its main routes with fast, economical truck transfer and delivery in local areas.

• **Investment return.** NYC now operates 100 125-ton Flexi-Flo covered hopper cars; has plans for 150 more in 1966. Stressing that prime objectives of NYC marketing are filling customers' real needs while achieving the best balance of profits and return on investment, Hohorst cited the cost study for Flexi-Flo cars. While the 100-ton model was calculated to show a return of 10.7%, the 125-tonner would return 15.9% and the 150-ton car with six-wheel trucks would return 12.7%. "The six-wheel trucks would have to come down considerably in cost," added Hohorst.

He also pointed out that four-wheel truck technology is well advanced, that carbody design is easier with four-wheel trucks, and that the 125-ton car had the best payload-to-tare ratio. NYC, he said, does anticipate higher maintenance-of-way expenses with the heavier axle loadings involved with the 125-ton cars.

• **Wheel vs. rail.** Some of the problems, particularly those of track and structures, were discussed by J. W. Hawthorne, assistant vice president—equipment, Atlantic Coast Line. whose road operates the 135-ton "Whopper Hopper" with six-wheel trucks. He said ACL is probably 18 months from a decision about six-wheel trucks; this running gear, he added, is to be avoided if possible on the basis of first cost and equipment-maintenance expense. But the factors of total weight on the rail, the distribution of this weight, and speeds of operation pose problems

which make the six-wheel truck worthy of serious consideration.

● **Heat-treated rail?** The Pennsylvania's position on possible damage to rail by heavier-than-normal cars was explained by H. T. Hammond, assistant chief engineer—staff. After noting that plastic flow of metal from the center of the rail head toward the gauge point produces shelling which can eventually initiate transverse cracks, Hammond said that altered head contours, increased rail weights, and alloy steels are not solutions. Terming heat-treated rail "helpful but expensive," Hammond summarized by saying that there is no economical change in rails which can prevent damage by heavier wheel loads.

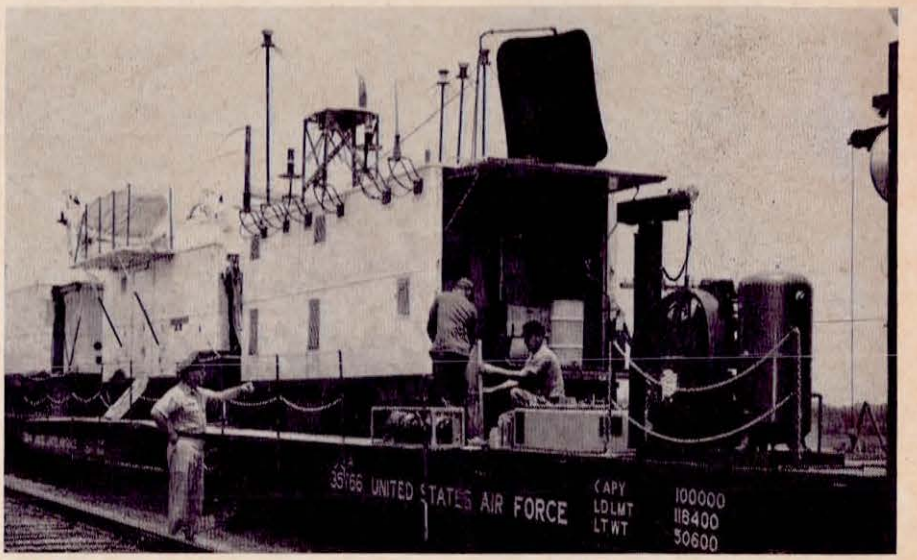
The PRR is already finding surfacing and alignment increasingly complicated on branch lines and sidings where substantial numbers of the Pennsy's growing fleet of 100-ton hoppers operate over light rail. Bridge strength is another problem. While most PRR bridges can sustain the 65,700-pound axle loading and spacing of 100-ton hopper cars, Hammond warned that greater axle loads could not be handled without restrictions.

● **Roll and lift.** Not all the complications of high-capacity cars are below the wheels. Railroads have recently been confronted with rolling and wheel lifting of 100-ton cars, phenomena which become more acute as the height of the car's center of gravity is increased and as car length approximates that of the standard rail length. H. L. Scott, Jr., manager—transportation, Norfolk & Western, discussed the problem as it has involved many recently built 100-ton hoppers. He cited as additional factors the side-bearing clearance, side-bearing spacing, operation of snubbers, spring travel, and condition of track.

The problems of car roll and wheel lift were experienced in the mid-'20s (RA, Jan. 16, 1926, p. 234) when the 70-ton hopper car was coming into widespread use, Scott noted. Proportions of today's 100-ton hoppers cause them to develop such roll that wheels are lifted from rails in the 15-mph range, if they operate over poorly maintained track joints. Scott stated that N&W experiences derailments only on downgrade curves, probably during slack run-in; that it does not occur on straight track.

● **Pressure on technology.** "The marketing approach to today's railroading will put pressure on the technical side to move faster and with no uncertainty in solving problems such as wheel lift," cautioned G. E. Reed, director of engineering and research for ACF Industries. Noting that there has been no generalized solution for the wheel-lift problem, he warned that the need is for a standard evaluation technique to answer, prior to building, the question: "Will this car derail in service, anywhere?"

Reed did suggest that railroads might improve their worst track, then alter offending cars to make them tolerate the prevailing condition of the remainder of the trackage. Train operations possibly could be controlled so that derailment-prone cars would not traverse curves at critical speeds. Changes in certain mechanical elements of the trucks might also aid in solving the problem. ■



Mobile simulated targets for SAC planes are mounted on flat cars.

RRs help measure SAC proficiency

Evaluation of bomber crews is facilitated by three sets of equipment which are shuttled around nation's rail network.

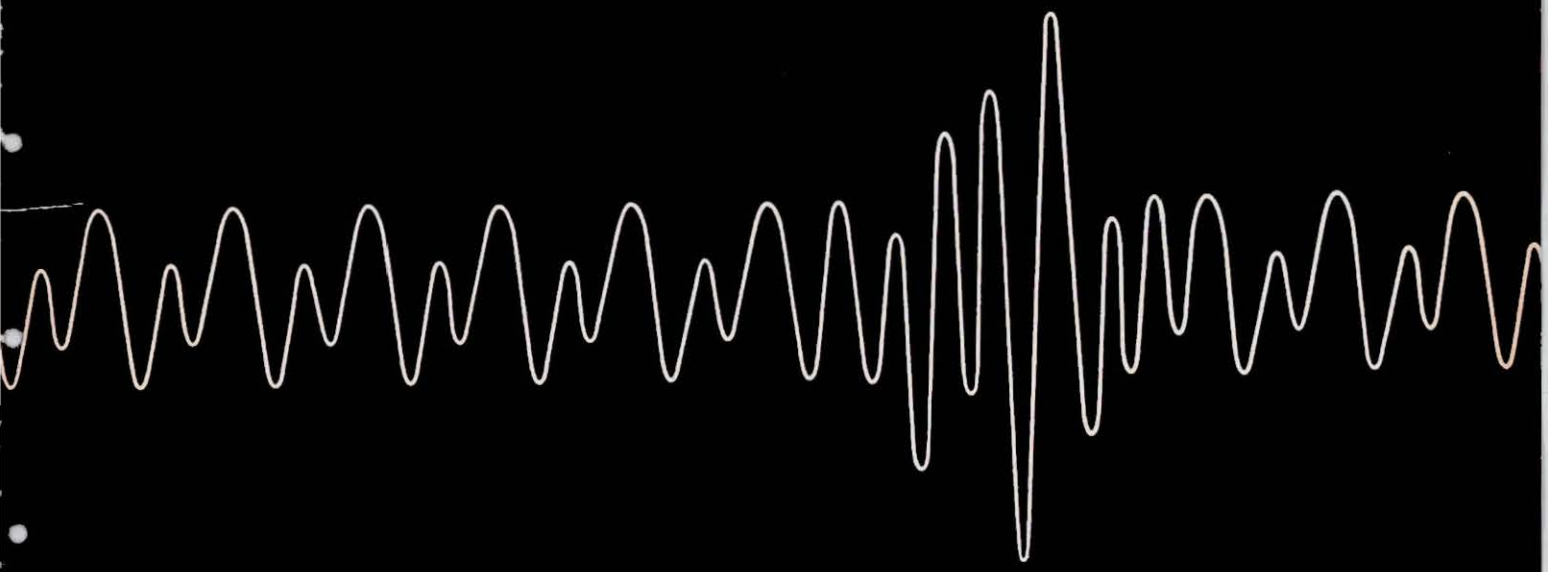
The motto of the Strategic Air Command is "Peace Is Our Profession"—and railroads are lending a hand to help make sure SAC crews have the professional proficiency to preserve peace.

The railroad role is part of SAC's Combat Evaluation Group program, which has the dual mission of evaluating the status of training of bomber crews and of accurately measuring their combat potential. One phase of CEG is radar bomb-scoring (RBS), in which electronic measurements of simulated bombing are taken—and that's where the railroads come in, with the operation of three nine-car "RBS Expresses" which are shuttled around the country to score crew accuracy under varying conditions.

One of the three $7-million trains went on display last week in Detroit, in connection with the annual transportation and logistics forum of the National Defense Transportation Association—but the railroads didn't stop with the SAC train in pointing up the industry's involvement in national defense. Also on display were cars used for movement of M-60 tanks and other military vehicles and a missile-carrier, which uses pneumatic "pillows" to cradle missiles against shock.

Clayton J. McPhail, chairman of the exhibit-sponsoring Railroad Community Service Committee of Greater Detroit, said the NDTA forum "provides an excellent occasion to show the public how the railroads serve national defense." In addition to the military-oriented equipment, Detroit-area carriers exhibited more than a dozen other pieces of specialized equipment, including high-cube box cars and auto-rack cars. ■

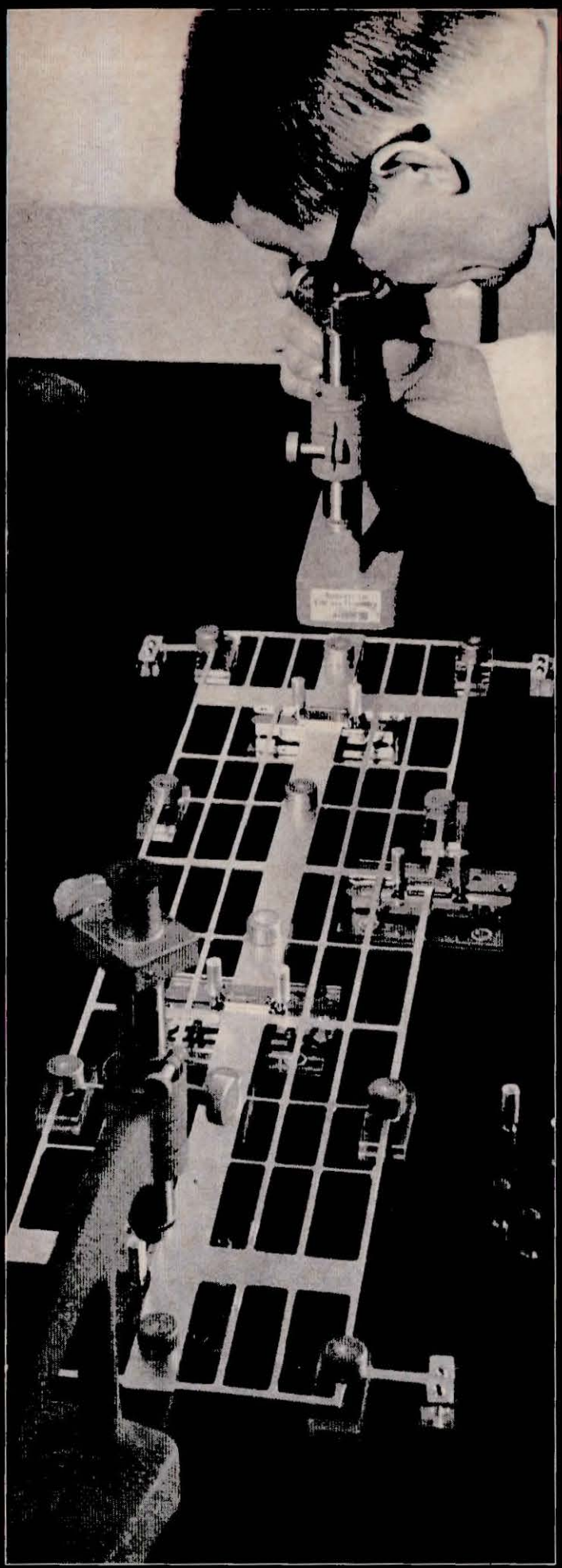
Moment of Truth in Boxcar Design



As ACF Precision Design™ boxcars undergo jarring impact tests, a battery of electronic devices records "the truth" of their ability to handle shocks and heavy loads in service.

The truth adds up to this. ACF Precision Design is a major new concept. It enables ACF to build you a boxcar with strength where you need it. Your car is never overdesigned or underdesigned. You get longer service life, lower maintenance, and up to 3 tons saving in deadweight.

How is it done? Read on the next two pages how ACF's Technical Center developed matched, pretested components, each precisely right for its structural function. Today the truth is out. Over 8000 ACF Precision Design boxcars are already serving 25 railroads all around the country.



ACF electronic testing, precision design assure components just right for your boxcar

ACF employs a basic boxcar design involving eight key structural components.

These components are standard. The collective attention of many ACF departments has been focused on perfecting them. Each component has been lab and field tested, improved, retested. Each is structurally compatible with the other. The specific requirements of **your** boxcar dictate the quantity, length and material grade of components to be used.

Thus you know in advance that you'll get the **right** boxcar for the job. The strength is where you need it. Through precision design and use of high grade steels, you save from 2000 to 6000 lbs. in deadweight.

You may choose 50-ft. or 60-ft. boxcars, fork lift truck loads from 12,000 to 60,000 lbs., interior equipment, load restraining devices. There are door sizes and locations to fit your needs exactly.

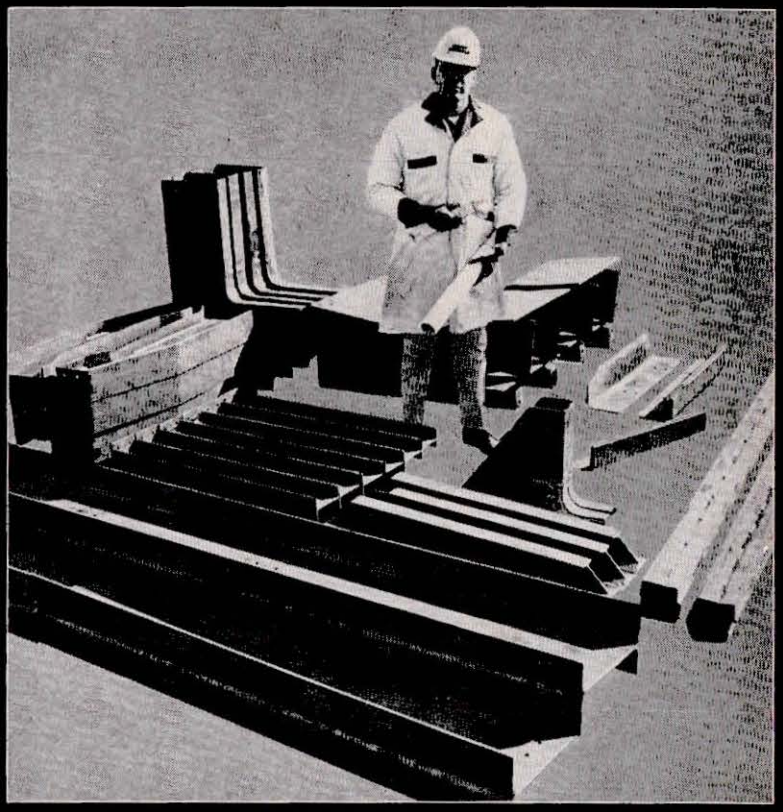
ACF evaluates metallurgy for strength and fatigue resistance. These mounted specimens are from bar, plate and sheet stock, and butt and lap-welded joints. They're polished to a mirror finish for metallographic examination.

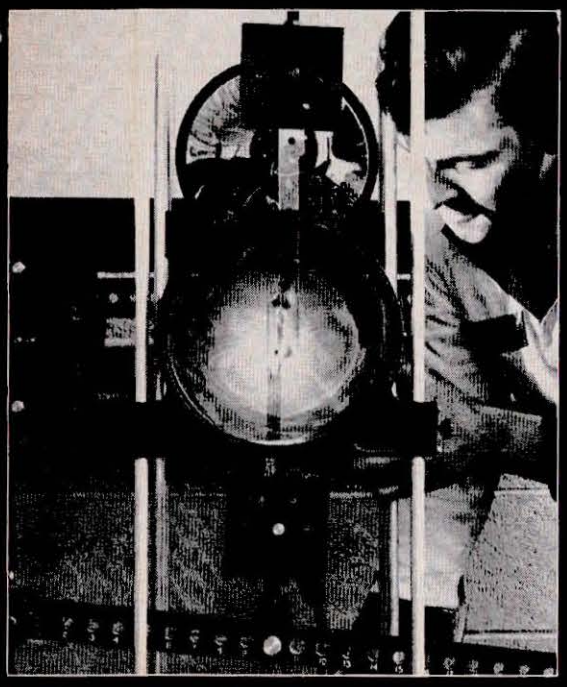
The test is simple for Precision Design components: will the material grade used perform better than any other economically available?

Underframe design is checked for load-stress forces. ACF technicians use transparent plastic models to pinpoint location and magnitude of stress in welded connections and areas of stress concentration. Result: optimum design with strength concentrated at critical points.

Components were tested in actual boxcar assemblies. Lab and engineering tests were backed by testing on the rails in completed boxcars.

Thoroughly pretested Precision Design Boxcar components are ready to go — into boxcars that give you unmatched performance, strength, light weight, higher payloads, complete flexibility.

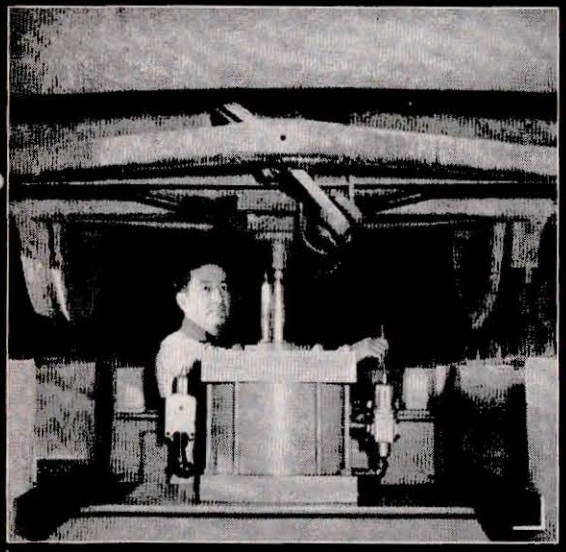




Materials are examined by polarized light. Even the most scrupulous surface examination is not enough for ACF Technical Center researchers. Here, a polariscope is being used to investigate stresses in lap-welded joints.

Cars are "tortured" on this exclusive ACF device. This 125-ft. ACF-designed testing device — the only one of its kind in the industry — accommodates a fully loaded boxcar.

It applies longitudinal, lateral and vertical loads, puts on a 1,250,000-pound squeeze, a 1,000,000-pound pull, tilts to simulate curves, and oscillates cars in fatigue tests that duplicate years of rugged service in weeks.



The ACF Precision Design concept can contribute to your profits. Have your ACF representative give you the full story. Call or write American Car & Foundry Division, ACF Industries, Incorporated, St. Charles, Missouri 63301, or our sales offices in Chicago, Philadelphia, St. Louis, San Francisco, Washington, D.C.

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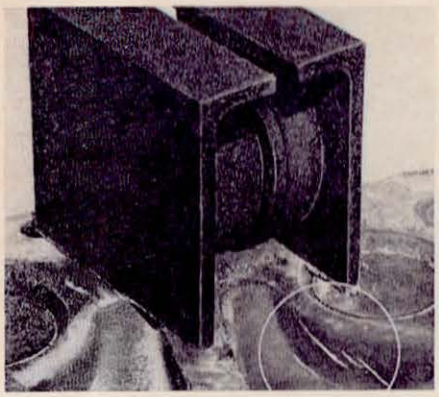
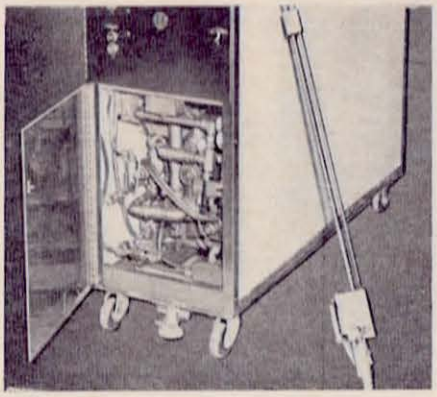
NEW PRODUCTS REPORT



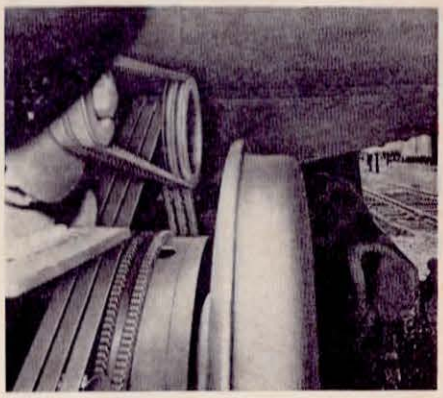
Crack inspection tool (RA-1)

A portable, non-electric device, the Porta-Ray, detects and defines invisible cracks in metal parts. The tool, powered by a magnetic core which retains its power indefinitely, induces a magnetic field which converts the walls of a crack into poles of a magnet. When test powder is sprayed, particles are attracted by the magnetized crack, forming a clearly defined image of its size and shape. Unit weighs 4 lb. *Magnetic Industries.*



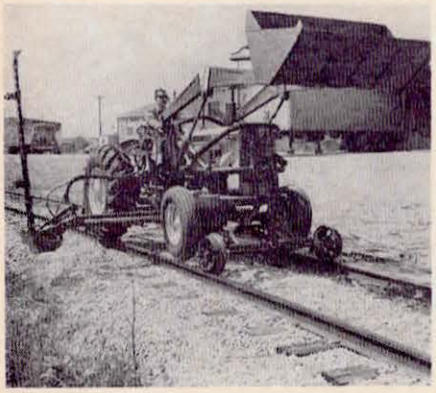
Cleaning Unit (RA-2)

With the Heiguomat portable cleaning unit one man, it is said, can wash, rinse and brighten a 40-ft aluminum trailer in 15 to 20 min. Ultrasonic and subsonic pulsing, coupled with 1,000-psi jet streams at a flow rate of 7.5 gpm, is said to remove the most stubborn of soils. The Heigun spray wand permits reaching into the most difficult areas, affords a choice of three chemicals, and a high-pressure rinse. *Heinicke Instruments.*



Caboose Drive (RA-3)

The Dayco unitized caboose drive is a complete assembly of components mounted on a main frame ready to weld to car center sill. Its small automotive type alternator, which may be located either inside the caboose or mounted to the main frame of the drive under the car, is said to develop 50-65 amp at a train speed of only 4 mph. The drive may be applied to standard or cushion underframes of any series of cabooses. *Dayco Corp.*



Loader-Mower (RA-4)

Weed cutting, loading, materials handling and yard cleaning are among the operations claimed for a combination loader-mower unit. Mounted on an industrial wheeled tractor having flanged wheel attachments for on and off-track work, the unit is equipped with a 6-ft double sickle or saber-tooth cutting bar and a front-end loader with 60-in., 2,000-lb-capacity bucket.

A hydraulically operated boom extension permits a 110-in. cutting area. Three hydraulic cylinders, one for boom extension, another for raising and lowering the sickle bar and the third for permitting cutter-bar adjustments in mowing above or below horizontal, are said to provide the flexibility required for variable terrain.

The unit is equipped with a double sickle bar for rough brush cutting and is convertible to the dual-action saber-tooth shear guard for fine cutting.

A 72-in. bucket is available for snow removal, as well as a snow-plow attachment. Also, a front-end fork lift is available for handling ties. *Superior Equipment Co.*

RAILWAY AGE WEEKLY

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10/4/65

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MARKET OUTLOOK

Carloadings

Loadings of revenue freight in the week ended Sept. 25 totaled 585,129 cars, the Association of American Railroads announced on Sept. 30. This was a decrease of 4,588 cars, or 0.8%, compared with the previous week; a decrease of 30,023 cars, or 4.9%, compared with the corresponding week last year; and a decrease of 36,483 cars, or 5.9%, compared with the equivalent 1963 week. Ton-miles generated by carloadings in the week ended Sept. 25 are estimated at 13.7 billion, a decrease of 1.1% below the corresponding week of 1964, and an increase of 2.2% above the 1963 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Saturday, Sept. 25

District	1965	1964	1963
Eastern, including Allegheny and Pocahontas ..	231,644	247,287	246,835
Southern	117,392	119,344	116,120
Total Eastern and Southern Districts	349,036	366,631	362,955
Northwestern .	83,239	91,866	93,263
Central Western	114,716	119,467	124,252
Southwestern .	38,138	37,188	41,142
Total Western Districts	236,093	248,521	258,657
Total All Roads	585,129	615,152	621,612
Commodities:			
Grain and Grain products	48,077	52,443	61,559
Livestock	3,412	4,432	4,277
Coal	110,320	120,153	120,526
Coke	7,929	8,908	7,088
Forest Products.	40,757	39,571	39,047
Ore	49,280	51,425	50,260
Merchandise l.c.l.	8,303	12,535	17,006
Miscellaneous .	316,851	325,685	321,849
Sept. 25	585,129	615,612	621,612
Sept. 18	589,717	624,033	596,504
Sept. 11	516,840	523,891	594,002
Sept. 4	599,879	603,516	496,822
Aug. 28	592,790	596,925	583,250
Cumulative total, 39 weeks	21,910,183	21,453,927	21,522,561
Estimated revenue ton-miles (billions) 39 weeks	513.0	488.3	461.4

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Sept. 18 totaled 22,247 cars, compared with 19,466 for the corresponding 1964 week. Loadings for 1965 up to Sept. 18 totaled 733,942 cars, compared with 637,688 for the corresponding period of 1964.

IN CANADA.—Carloadings for the seven-day period ended Sept. 14 totaled 86,521 cars, compared with 71,103 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Sept. 14, 1965 ..	86,521	21,459
Sept. 14, 1964 ..	83,916	20,520
Cumulative Totals		
Sept. 14, 1965 ..	2,718,122	876,133
Sept. 14, 1964 ..	2,736,560	866,919

FREIGHT-TRAIN CARS

► *Illinois Terminal.*—Ordered 360 new freight cars at a cost of approximately $5 million. Included are 100 100-ton gondolas from Magor; 100 70-ton gondolas from Ortner; 100 50-ft standard box cars, and 30 50-ft specially-equipped box cars from Pullman-Standard; 20 cast-steel underframe flat cars equipped with chain tie-downs from General Steel Industries; and 10 50-ft, 70-ton specially equipped box cars from General American. Deliveries will begin in October.

► *Pennsylvania.*—Ordered 250 100-ton center-flow-type covered hoppers from ACF at a cost of $3.6 million. The cars, to be delivered in the next two months, will replace box cars for grain shipments moving in unit trains and multiple-car lots.

ORDERS AND DELIVERIES

► *Orders increase.*—Orders were placed in August for 8,801 new freight cars, compared with 6,330 in July. Orders for new cars totaled 5,344 in August 1964. Deliveries in August totaled 5,033 cars, compared with 5,781 in July and 4,349 in August 1964. On Sept. 1 the backlog of cars on order and undelivered totaled 40,737 (of which 12,623 are to be built in railroad shops and 28,114 in the shops of contract car builders). The Aug. 1 backlog was 37,187 cars; the backlog one year ago, on Sept. 1, 1964, was 29,574 cars.

PASSENGER CARS

► *New York City Transit Authority.*—General Steel Industries, Inc., St. Louis Car Division, the prime contractor for 100 new subway cars for New York's transit system, has placed a multi-million dollar order for electrical equipment for the cars with Westinghouse Electric Corporation. Westinghouse will supply traction motors, motor-generator sets and propulsion controls, gear drives and ventilation fans. Delivery of the equipment will begin in April 1966.

LOCOMOTIVES

► *Canadian Pacific.*—Has ordered from General Motors Diesel, Ltd., London, Ont., 32 six-axle, 3,000-hp diesel-electrics, at a cost of $11 million, for delivery during the second half of 1966. Each of the new units, believed to be the most powerful ever purchased in Canada, will have 500 hp more than any present CP locomotive. Slated for use in high-speed freight and fast piggyback operations, they will bring the railroad's total diesel fleet to 1,098 units. Special features will include pressurized engine compartments, turbochargers and a new system for generating electric power. The CP has also leased four diesel units from U.S. railroads, and contemplates leasing another 10, to expedite movements of Canadian wheat recently sold to Russia.

► *Lehigh & Hudson River.*—Ordered two 2,000-hp Century 420 locomotives from Alco for December delivery.

► *Pennsylvania.*—Ordered 10 2,500-hp Century 425 locomotives and five 2,750-hp Century 628 locomotives from Alco for delivery in November and December.

► *Piedmont & Northern.*—Ordered two 2,000-hp Century 420 locomotives from Alco for December delivery.

YOU OUGHT TO KNOW

New president for E-L: Erie Lackawanna last week elected Gregory W. Maxwell as president and Fred Diegtel vice president, operations and maintenance. William White continues as chairman and chief executive officer. Maxwell was formerly senior vice president with jurisdiction over operations and maintenance, and Diegtel was vice president, labor relations.

To start new Alberta line: Construction is expected to start in a few weeks on the first segment of the line of the provincially-financed Alberta Resources Railway Corp. (RA, June 14, p. 7) which is to run northward from the Canadian National main line between Edmonton and Jasper. Canadian National, which will build and probably will operate the road that evenutally could extend to Grande Prairie, Alta., is now organizing an engineering staff to plot the route for the $16 million, 90-mile initial phase which will reach a new mining district. Estimated cost of line to Grande Prairie would be $40 million.

Bonanza, UP style: Union Pacific's natural resources division has a new property—the Buffalo silver and gold mine, near Baker, Ore. L. S. Osborne, chief executive officer of the division, says the addition of the Buffalo is in keeping with UP's continuing policy of mineral acquisitions and "reflects current nationwide interest in silver production." The mine and its flotation mill will be operated under contract by its former owner.

Hope for a new policy: Transportation legislation got lost in the shuffle in Congress this year, but the "prospects for the future and the next session of Congress do appear bright." So says Carroll P. Burks, president of the American Short Line Railroad Association. Burks told his organization's annual meeting (in Milwaukee last week) that "on the desk of President Johnson is a report prepared by a special task force of transportation experts on what is likely to happen in the next decade if present trends in U.S. transportation continue. The President, it is said, is both alarmed and impressed by this report. . . . Though the President has yet to formulate a precise transportation policy, he has already lined up a whole new group of aides to help him do so. They are, without question, the most impressive, non-political group of men ever assembled in Washington to deal with transportation."

Rewards of higher education: Do graduate studies in transportation pay off? There's no question about it, says William C. Flaherty, director of Northwestern University's Transportation Center. Starting salaries for graduates with a Master of Science in Transportation range from $700 to $850 per month, says Flaherty; men with experience command even higher pay. And the field is far from overcrowded. "The demand for graduate students who have specialized in transportation exceeds our supply," the educator reports.

RPI promotes Harris: Nils A. Lennartson, president of the Railway Progress Institute, has announced the promotion of Rodney A. Harris from treasurer to vice president and secretary. Robert A. Matthews, formerly acting secretary, has been named treasurer.

Vapor adopts 'Zero Defects': The Vapor Corp. has become the first supplier in the railroad industry to adopt the new personal motivation plan known as "Zero Defects." Endorsed by the Department of Defense, the plan is designed to encourage workers to strive for an ultimate goal of perfection by restoring pride in craftsmanship. Vapor President A. J. Loose told employees that "Zero Defects flourishes in the belief that pride of workmanship, inherent in every individual, has not been lost to American industry—all employees have the basic desire to exhibit this in the products they turn out."

Truck tonnage: Intercity truck tonnage in the week ended Sept. 18 was 19.3% above the preceding week, and 3.3% ahead of volume for the corresponding 1964 week, according to American Trucking Associations.

Current statistics

Net income	
6 mos., 1965	$335,000,000
6 mos., 1964	330,000,000
Carloadings, revenue freight	
39 wks., 1965	21,910,183
39 wks., 1964	21,453,927
Freight cars on order	
Sept. 1, 1965	40,737
Sept. 1, 1964	29,574
Freight cars delivered	
8 mos., 1965	48,524
8 mos., 1964	47,126
Serviceable cars	
Sept. 1, 1965	1,402,904
Sept. 1, 1964	1,408,778

Supply Trade

C. J. Dammann, sales representative, **Fairmont Railway Motors, Inc.,** Lynchburg, Va., has retired. **Dennis Langford,** formerly of the New York district, will cover the territory previously served by Mr. Dammann.

Paul E. Long has been named plant manager of **North American Car Corp.'s** plant at Texarkana, Ark. Mr. Long, formerly manager of the plant's car repair facilities, succeeds **George T. Bailey,** who will serve as consultant to the company's Engineering Division until his retirement next Aug. 31.

Charles E. Coyl has been named manager of tank car sales and **Daniel W. Conrad** has been appointed manager of manufacturing and fleet maintenance, **General American Transportation Corp. Tank Car Division.**

M. B. Burns has been named manager of works of both the Michigan City and Hammond, Ind., plants of the **Pullman-Standard** division of **Pullman Inc.** Mr. Burns has been manager of the Michigan City plant. **B. H. Bradley,** manager of the Hammond plant, appointed manager of **Pullman Car Works,** Chicago, to succeed **N. R. Haines,** who retires Oct. 1.

John W. Rapp has been appointed district manager in St. Louis, **Thermex Metallurgical, Inc.,** manufacturers of rail welding materials. Mr. Rapp was previously with Tamper, Inc.

Maurice V. O'Shea, transportation sales representative, **Gustin-Bacon Manufacturing Co.,** Kansas City, Mo., has been named assistant manager, transportation sales department.

A. King McCord, president, **Westinghouse Air Brake Co.,** has been elected chairman of the board and chairman of the executive committee, succeeding **Edwin Hodge, Jr.,** resigned at his own request. **John S. Newton,** formerly president of Goodman Manufacturing Co., has been elected vice president, WABCO and general manager, Goodman Division of WABCO.

A new Pacific Coast parts-and-service center, which houses a manufacturing facility, has been opened at San Leandro, Calif., by WABCO.

George P. Moser, pneumatic engineer, has been appointed service engineer, Pacific District, Air Brake Division, San Francisco.

William G. Horn, assistant chief structural engineer, **De Leuw, Cather & Co.,** has been appointed chief structural engineer, to succeed the late **L. Nordlow Rian.**

Current Publications

FEDERAL-METROPOLITAN POLITICS AND THE COMMUTER CRISIS, by Michael N. Danielson. 244 pages. Columbia University Press, 2960 Broadway, New York, 10027. $6.

SUDAN TRANSPORT: A HISTORY OF RAILWAY, MARINE AND RIVER SERVICES IN THE REPUBLIC OF THE SUDAN, by Richard Hill. 188 pages, illustrations, maps. Oxford University Press, 417 Fifth Ave., New York, 10016. $6.75.

C&NW RY. STEAM POWER, by Charles T. Knudsen. 208 pages, illustrations. Knudsen Publications, 3539 North Lincoln Ave., Chicago, 60613. $10.

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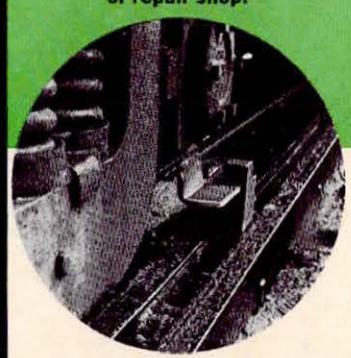

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PEOPLE IN THE NEWS

CHESAPEAKE & OHIO.—**R. L. Masse** appointed supervisor of safety and fire prevention, Ludington, Mich., succeeding **R. W. Harris,** transferred to Saginaw, Mich., replacing **K. A. Stanton,** retired.

CHESAPEAKE & OHIO—BALTIMORE & OHIO.—**Lester C. Roig, Jr.,** senior assistant treasurer, B&O, since Sept. 1963, and assistant treasurer, C&O, since Dec. 1964, elected treasurer of C&O-B&O, with headquarters remaining at Baltimore. Mr. Roig succeeds **H. T. Watkins, Jr.,** who was treasurer, C&O, in addition to vice president—finance of both roads, and **E. P. Snyder,** who was treasurer, B&O. Mr. Watkins is relinquishing his role as treasurer to give him more time for the overall financial functions of C&O-B&O. Mr. Snyder becomes executive assistant to vice president—finance and will continue to work directly with Mr. Watkins on major C&O-B&O financial projects.

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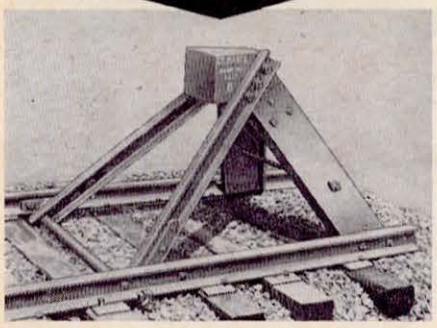

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CHICAGO & NORTH WESTERN.—**Gene F. Cermak,** assistant vice president in charge of industrial development, and **Stanley B. Boardman,** traffic manager, eastern region, New York, advanced to assistant vice presidents in charge of sales and services, Chicago. **G. W. Armstrong,** assistant traffic manager, Chicago, succeeds Mr. Boardman. Mr. Armstrong's successor is **Charles D. McGehee,** assistant director of the piggyback department.

G. R. Gibbons, district storekeeper, Iowa district, Clinton, Iowa, promoted to procurement analyst, Chicago, to replace **W. E. Merritt,** assistant to general purchasing agent, who has been assigned to the computer planning project. **M. J. Kamper** succeeds Mr. Gibbons.

CHICAGO GREAT WESTERN.—**G. E. Kellogg,** vice president, secretary and comptroller, Oelwein, Iowa, has resigned to accept other employment, effective Sept. 30. **D. L. Joerger** appointed comptroller, Oelwein, Iowa. **F. Willam Button** appointed secretary of the company, Kansas City.

CHICAGO TRANSIT AUTHORITY.—**George Krambles** named superintendent of research and planning (RA, Sept. 6, 1965 p. 34). He was formerly superintendent of planning and operations for the Transportation Department.

DELAWARE & HUDSON.—**Reginald W. Hover,** superintendent of police, retired Oct. 1.

LOUISVILLE & NASHVILLE.—**Elwood E. Hutchens,** assistant general chief clerk, auditor passenger accounts office, Louisville, named manager-passenger revenue accounting and auditing. **C. D. Dutschke.** assistant auditor of revenue-passenger accounts, and **M. L. Fox,** tax accountant, retired after 49 and 48 years of service, respectively.

MAINE CENTRAL.—**James O. Born,** principal assistant engineer, Portland, Me., appointed chief engineer there, succeeding **Charles D. Prentice,** who retired Sept. 30, after 49 years of railroad service.

MILWAUKEE.—**F. J. Kuklinski,** superintendent, Aberdeen division, Aberdeen S.D., named assistant to the assistant general manager, Chicago. Mr. Kuklinski's successor is **F. A. Barton,** acting superintendent, Milwaukee division, Milwaukee, Wis. **F. H. Ryan,** superintendent, LaCrosse division, LaCrosse, Wis., becomes superintendent, Milwaukee division, succeeding Mr. Barton. **M. T. Sevedge** transferred from the Rocky Mountain division, Deer Lodge, Mont., to replace Mr. [illegible] and in turn is replaced by **W. F. Pl[illegible] berger,** who has been on special assignm[illegible] for the operating department.

George J. Barry, acting superintendent, Iowa division, Perry, Iowa, appointed superintendent of safety, Chicago, to succeed **A. W. Shea,** named special representative to operating vice president.

MISSOURI PACIFIC-TEXAS & PACIFIC — **J. T. Taylor** named assistant director of industrial development, St. Louis.

MODESTO & EMPIRE TRACTION CO.—**Richard F. Olsen** appointed vice president and general manager, Modesto, Calif.

NEW YORK CENTRAL.—**Thomas B. Graves, Jr.,** freight sales manager—automotive, Detroit, appointed manager of automobile industry services for the system.

PENNSYLVANIA.—**Clifton O. Nock,** manager of foreign freight sales, Philadelphia, appointed district sales manager, Baltimore and Eastern, at Wilmington, Del., succeeding **R. F. Meyer,** who retired Oct. 1 after 46 years with the PRR.

ROCK ISLAND.—**Eaton Adams,** executive vice president and general counsel, elected vice president-law, **Theodore E. Desch,** general attorney, elected general counsel.

George Voss, superintendent, Chicago division, transferred to the Des Moines division, to succeed **B. R. Dew,** retired. Mr. Voss' successor is **Frank J. Garner,** assistant superintendent, Chicago division.

Newell J. Nessen, freight sales representative, Boston, named district manager-freight sales, Philadelphia, replacing **J. M. Murphy,** appointed regional sales manager of the trailer service department, New York.

SAN FRANCISCO BAY AREA RAPID TRANSIT DISTRICT.—**John S. Daniels,** real estate manager, retired. His successor is **Truman L. Carlson,** principal right-of-way agent.

SEABOARD.—**Paul W. Harris,** assistant general passenger agent, New York, appointed general passenger agent there, succeeding **Louis G. Weber,** who retired Oct. 1 after 25 years with the Seaboard. **Ralph L. Finelli,** traveling passenger agent, appointed division passenger agent, New York, succeeding **J. T. Busbee, Jr.,** promoted to assistant general passenger agent there.

SPOKANE INTERNATIONAL. — **Theodore A. Goody,** general freight agent, Spokane, Wash., retired Sept. 30 after more than 48 years of continuous service with this road. **Hollis C. Tritt** named assistant general freight agent, Spokane.

Lewellyn E. Donahue appointed general freight agent, **Union Pacific** and Spokane International, Spokane.

UNION PACIFIC—SPOKANE INTERNATIONAL.—**Lewellyn E. Donahue** appointed general freight agent, Spokane, Wash.

Dividends Declared

CHICAGO GREAT WESTERN.—Preferred, 62½¢, quarterly, paid Sept. 30 to holders of record Sept. 25.

GREAT NORTHERN.—75¢, quarterly, payable Nov. 1 to holders of record Oct. 15.

WESTERN MARYLAND. — 35¢, quarterly, paid Sept. 29 to holders of record Sept. 20.

NEW YORK CENTRAL.—32½¢, quarterly, payable Oct. 14 to holders of record Sept. 23.

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THE ACTION PAGE

What about the short lines?

Some years ago there was a good-sized railroad that had a money-losing 30-mile branch line which it was seeking to abandon. A couple of experienced railroaders offered to buy the line (at something like the junk value of the property), but the owning railroad showed no enthusiasm for the proposal.

Whether true or not, the explanation went the rounds that the reluctance of the owning railroad to sell the branch line was derived from the fact that little of its traffic was local. Most of it was interline and long-haul (such commodities as coal, lumber, building materials, products moving in tank cars). The management of the owning railroad was said to believe that, if the branch were abandoned, most of its traffic would still move by rail to the nearest railroad station, and the rest of the distance by truck. In short, the owning railroad foresaw little or no loss in traffic from abandoning the branch, while there would be considerable saving in elimination of its operating and maintenance costs and taxes. So the line was abandoned.

Largely left out of calculation was the fact that transfer from car to truck, or vice versa, would involve considerable delay and expense (especially before the day of piggybacking). This expense and delay might often be sufficient to offset the greater economy of line-haul by rail, for the longer part of the trip. The shippers and receivers might, rightly or wrongly, calculate that it would be faster or cheaper (or both) for them to move the shipment all the way by truck. At any rate, such seemed to be the effect of the abandonment of this particular branch line.

Is there any solution, except abandonment, for a branch line that does not earn its keep under standard railroad practices? An answer has apparently been found by quite a number of short-line railroads, locally owned. Such lines, in many cases, pay wages at the local (instead of the national) level. They are often not required to over-man their train crews. With only a few trains to handle, dispatching and signal installations are not elaborate. If conditions for operating such short lines were more onerous than they are, many of these little railroads would probably have to cease operation.

Main-line roads have a stake

In that case, the main-line railroads might lose much of the not inconsiderable tonnage that these local railroads originate and terminate; and employees of main-line railroads would lose the jobs that this tonnage provides. More than that there are a lot of local industries that could not survive against competitors who are more advantageously located—unless their railroad service is continued. The loss of such railroad service would be ruinous to many communities.

Some of these little railroads have succeeded in augmenting their slender freight revenues by acquiring and operating antique passenger trains as a tourist attraction. At least one major railroad is carrying on this latter activity successfully (e.g., the D&RGW, RA, Sept. 13, p. 17)—but it is not the sort of enterprise that most main-line roads could be expected to undertake on a large scale. Many smaller railroads could engage in such side activities without interference to their regular freight traffic, which usually does not suffer from congestion.

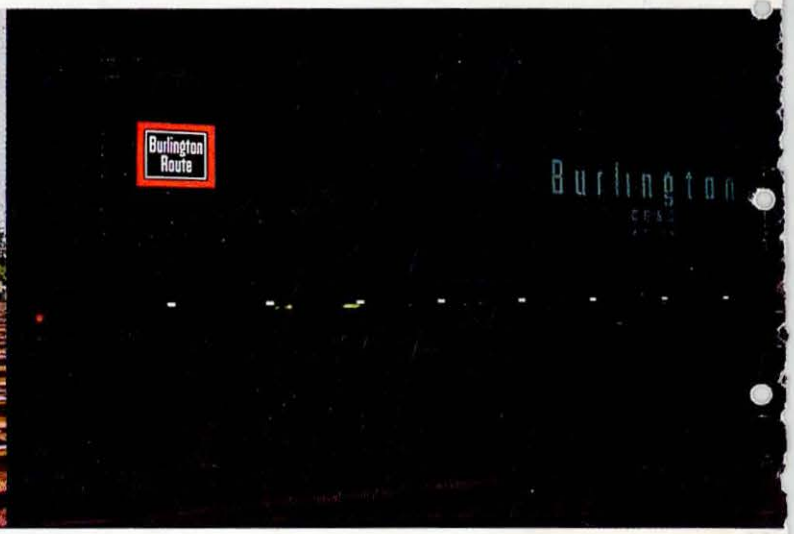
Giving the short lines an opportunity to make their maximum contribution to profitable overall railroad traffic is no alternative to logical mergers, and is no solution to "the railroad problem." The future of the railroads lies largely in reducing parallel trackage (concentrating traffic on the more economical route); and in providing fast, frequent and dependable service in trains of efficient size and equipment at competitively attractive rates. This is the goal to which most of the attention of most railroads will probably, and must, be directed. But a healthy tree does not have only one trunk and a half-dozen roots and branches. It has hundreds, or even thousands, of branches and roots—needed to keep the main trunk healthy. Aren't railroads much the same?

"Feeder" traffic

Back in the 'twenties, when government sought to embark on railroad consolidation on a compulsory basis, one of the main objectives seemed to be to force the main-line railroads to take over some of the shorter lines, and to use part of their main-line earnings to subsidize the less remunerative lines. In due course, however, earnings of the main lines declined to the point where it was no longer possible for them to purchase red-ink railroads. And they, themselves, had to start pruning.

There are several sources of the economy that railroad service provides—e.g., minimum resistance from friction; ability to haul heavy loads per car and per train, with minimum need for manpower and fuel in relation to lading. All these factors are augmented when traffic on economical main routes is increased. And one of the ways to accomplish this is to increase the traffic provided by "feeder" lines. Short lines can provide such "feeder" traffic, if they can operate on a basis of self-sufficiency, and without cost to the main-line railroads.

These roads cannot afford to subsidize any other carriers (including competing highways and waterways)—but self-sufficient short lines, which supplement main lines but do not take traffic away from them, would not be subsidized. What they may get in the way of liberal treatment from local government or easier working rules is a community advantage. Such considerations can be given adequate weight without any diversion from the railroads' major concern—that of increasing railroad traffic by more satisfactory and more economical main-line service.



How the Burlington puts a bigger payload on every car

Wherever the Chicago, Burlington & Quincy rolls, customers and shippers are noticing as well as benefiting from the hundreds of modern, new special-purpose CB&Q freight cars now in service. And there's something else they notice. Night and day they see that familiar Burlington corporate emblem—the seal of quality—emblazoned on every car in brilliant "Scotchlite" Reflective Sheeting.

In shipper's yards, or out on the main line, Burlington cars are leaving a long trail of good impressions for a well-run railroad. Every car is a hard-working, well-dressed salesman. This is good public relations. And full-time corporate identity. This is how the Burlington puts a bigger payload on every car.

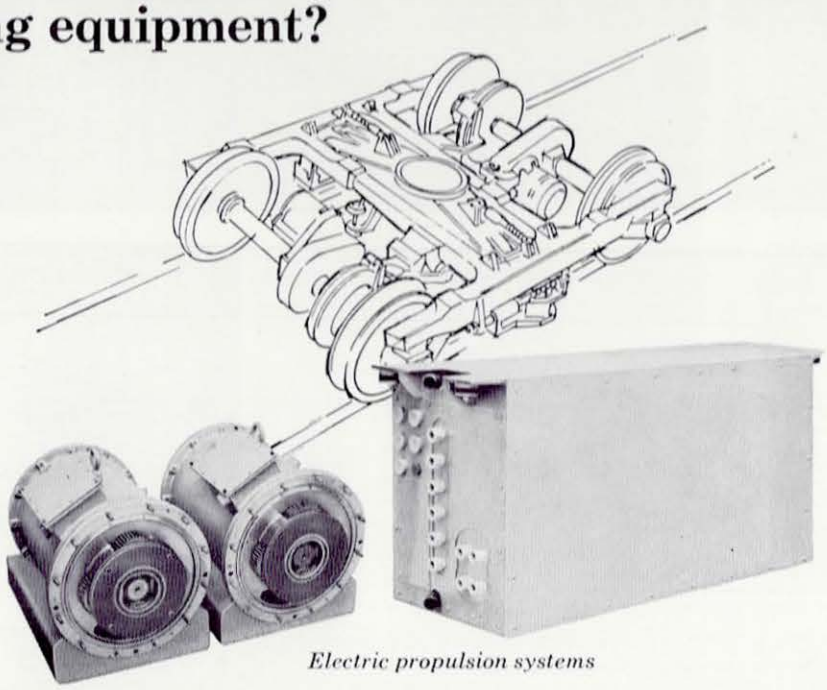
Night and day, "Scotchlite" Reflective Sheeting keeps car markings in sight and working full time. With special depth and dimension by day. And with color-rich startling visual impact at night.

Here's the quick, easy way to give rolling stock a dramatic new look and 24-hour advertising power. "Scotchlite" Reflective Sheeting is a tough, durable sheeting embedded with millions of tiny glass lenses and surfaced with smooth, protective plastic. No other reflective material offers such dependable performance in any weather, or at wider angles. It is easy and economical to fabricate and apply.

For more information on how to use "Scotchlite" Reflective Sheeting on your rolling stock, ask your 3M Representative, or write 3M Co., Dept. RBO-105, 2501 Hudson Road, St. Paul, Minn. 55119.

Scotchlite® BRAND REFLECTIVE SHEETING 3M COMPANY

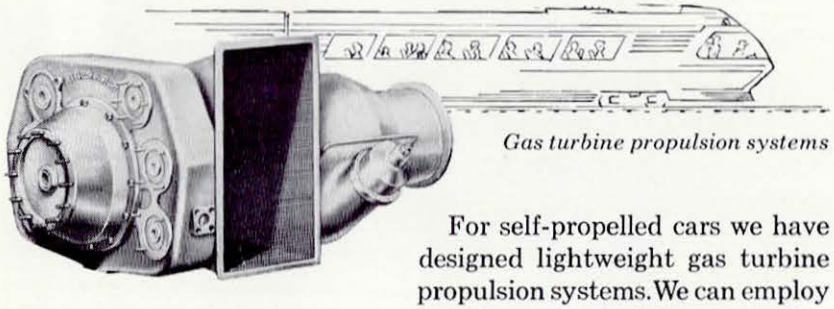
Who can help high-speed rail cars operate more profitably with lightweight, reliable propulsion and air conditioning equipment?



Electric propulsion systems

Garrett-AiResearch for 25 years has built lightweight, reliable, economical systems for both the aircraft and space industries. This experience includes gas turbines, heat transfer equipment, control systems, electromechanical equipment, and environmental control systems for almost all the airplanes and manned spacecraft in the free world today.

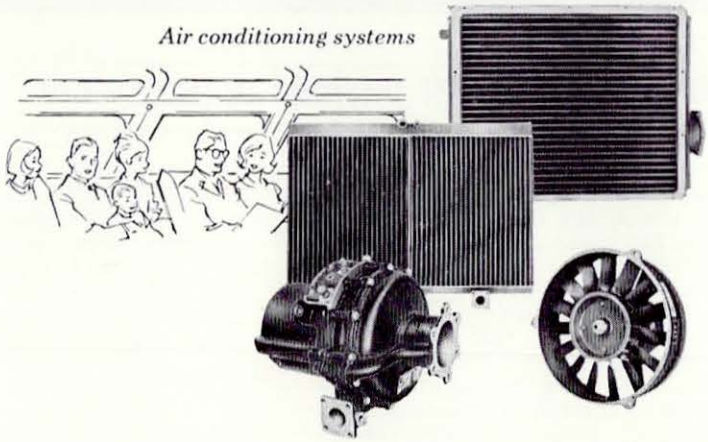
This same know-how can benefit operators and builders of high-speed rail cars. It can save thousands of pounds of weight per car, and tens of thousands of dollars each year in operating costs.



Gas turbine propulsion systems

For self-propelled cars we have designed lightweight gas turbine propulsion systems. We can employ a turbomechanical drive or turboelectric drive, depending on the application.

Air conditioning systems



For electric propelled cars we can provide AC or DC driven motors powered from static conversion equipment operating from either an AC or DC source.

We can provide lightweight, electrically powered air conditioning systems for all kinds of vehicles. Where a gas turbine is used for propulsion we can utilize exhaust heat for air conditioning.

For more information, write Dept. 1101, The Garrett Corporation, 9851 Sepulveda Blvd., Los Angeles, California 90009.

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